Slot Property Information—FC_MR-4, FMEC, Multirate, Optical, and Transponder Cards

This appendix provides information on the cards supported in CTM. This appendix contains the following sections:

Note In the CTM GUI, read-only fields have a gray background.

Caution Refer to the appropriate hardware documentation before attempting to set thresholds on ONS 1580x boards. See 1.7 Related Documentation, page 1-45.

D.1 FC_MR-4 Card

This section describes the FC_MR-4 card supported within CTM.

D.1.1 Slot Properties—FC_MR-4

The Slot Properties pane displays information about the Cisco ONS 15454 SONET or ONS 15454 SDH card slot that is selected in the NE Explorer tree. Use this property sheet to change the card properties.

The Fiber Channel 4-port (FC_MR-4) card is a 1.0625- or 2.125-Gbps Fiber Channel/Fiber Connectivity (FICON) card that integrates non-SONET or non-SDH framed protocols into a SONET or SDH time-division multiplexing (TDM) platform through virtually concatenated payloads.

The FC_MR-4 card uses pluggable Gigabit Interface Converters (GBICs) to transport non-SONET/SDH-framed, block-coded protocols over SONET/SDH in virtually concatenated or contiguously concatenated payloads. The FC_MR-4 can transport fiber channel over SONET/SDH using fiber-channel client interfaces and allows transport of one of the following at a time:

- Two contiguously concatenated (CCAT) STS-24c/VC4-8c circuits

- One STS-48c/VC4-16c CCAT

- Two virtually concatenated (VCAT) circuits (STC3c-8V/VC4-8v) compliant with ITU-T G.7041 GFP-T and Telcordia GR-253-CORE

- One STS-24c/VC4-8c CCAT and one STS-24c/VC4-8c VCAT

For the FC_MR module, the Slot Properties pane displays the following tabs: Module View, Identification, Card, Port, Alarm Behavior, RMON Thresholds, J1 Path Trace, GBIC Inventory, and Info.

D.1.1.1 Module View Tab

The Module View tab displays a graphic of the FC_MR that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Alarms are also displayed when you move the mouse pointer over the graphic.) The Suppress Alarms check box is read-only and indicates whether all alarms are suppressed for the card and its port(s).

Right-clicking the graphic opens a shortcut menu that you can use to reset, delete, or change the card.

D.1.1.2 Identification Tab

The Identification tab allows you to view and update FC_MR identification information.

Table D-1   Field Descriptions for the Identification Tab

Field	Description
Equipment Type	Displays the equipment type the slot is provisioned for.
Actual Equipment	Displays the actual card that is installed in the slot.
HW Part Number	Displays the card part number that is printed on the top of the card.
Hardware Revision	Displays the hardware revision number.
Serial Number	Displays the card serial number that is unique to each card.
CLEI Code	Displays the CLEI code.
Firmware Version	Displays the revision number of the software used by the ASIC chip installed on the card.
Product ID	Displays a product ID string of 63 characters maximum. If the card does not support the product ID, the field shows N/A.
Version ID	Displays a version ID string in the format "V99_." The version ID always begins with a V and ends with a space. If the card does not support the version ID, the field shows N/A.
Administration State	The port administration state. It can be: • IS—In Service. • IS, AINS—Automatic In Service. • OOS, DSBLD—Out of Service, Disabled. • OOS, MT—Out of Service, Maintenance.

Table D-1   Field Descriptions for the Identification Tab (continued)

Field	Description
Service State	Overall availability of the entity. Values are: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped. There is nothing in the slot. • UAS—Unassigned. The entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic In Service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE release does not support the Service state, this field shows *N/A*.
Equipment State	Displays the equipment state of the card.
Alarm Profile	Sets the alarm profile for the port. Check the Suppress Alarms check box to suppress all alarms for this card and its port(s).

D.1.1.3 Card Tab

The Card tab allows you to view and update card information.

Table D-2   Field Descriptions for the Card Tab

Field	Description
Card Mode	Select the card mode. It can be either of the following: • Distance Extension (Cisco default) • Line Rate Only
Current Bandwidth Usage	Displays the current bandwidth utilization in terms of STS or VC-4 usage.

■ FC_MR-4 Card

D.1.1.4 Port Tab

The Port tab allows you to view and update FC_MR port information. The tab contains the following subtabs:

D.1.1.4.1 General Subtab

The General subtab allows you to view and update general port information.

Table D-3   Field Descriptions for the General Subtab

Field	Description
Port Number	Displays the card port number. Values are 1 to 4.
Port Name	Allows you to assign the specified port a name. The name can be up to 32 alphanumeric or special characters and is blank by default.
Admin State	Displays the administration state. The state can either be Unlocked or Locked, Maintenance.
Media Type	Set the media type for each port. Options are: • FICON - 2 Gbps—Available when Distance Extension card mode is selected or distance extension is enabled on the port. • FICON - 1 Gbps—Available when Distance Extension card mode is selected or distance extension is enabled on the port. • Fibre Channel - 1 Gbps—Fiber channel interface. • Fibre Channel - 2 Gbps—Fiber channel interface. • Undefined—This is the Cisco default media type when the card is inserted.
Link Rate	Displays the actual rate of the port.
Max GBIC Rate	Displays the maximum GBIC rate. Cisco supports two GBICs for the FC_MR-4 card (ONS-GX-2FC-SML and ONS-GX-2FC-MMI). If used with another GBIC, "See GBIC vendor" displays.
Enable Link Recovery	Enables or disables link recovery if a local port is inoperable. If enabled, a link reset occurs when there is a loss of transport from a cross-connect switch, a protection switch, or an upgrade.
State	Places the port in service (IS), out of service (OOS), or out of service–maintenance (OOS_MT).

D.1.1.4.2 Distance Extension Subtab

The Distance Extension subtab allows you to enable the buffer-to-buffer extension between the client and the FC_MR-4 card in order to increase the dense wavelength division multiplexing (DWDM) distance without affecting the throughput.

Table D-4   Field Descriptions for the Distance Extension Subtab

Field	Description
Port No.	Displays the port number.
Enable Distance Extension	Check to enable end-to-end distances of up to 1600 km for 1 GFC and up to 800 km for 2 GFC. When enabled, all the fields for the port are enabled.
Auto Detect Credits	Check to enable automatic detection of buffer credits for flow control.
Credits Available	Displays the number of credits available. You can set the credits available only if the Auto Detect Credits field is disabled on the port. Values should be in multiples of 2. The minimum value is 2 and the maximum value is 256.
Autoadjust GFP Buffer Threshold	Check to automatically adjust the threshold of the GFP buffer.
GFP Buffers Available	Displays the number of GFP buffers. You can set the GFP buffers as available only if the Autoadjust GFP Buffer Threshold field is disabled. Values should be in multiples of 16. The minimum value is 16 and the maximum value is 1200.

D.1.1.4.3 Enhanced FC/FICON Subtab

The Enhanced FC/FICON ISL subtab allows you to enable FPGA to drop duplicate frames.

Table D-5   Field Descriptions for the Enhanced FC/FICON Subtab

Field	Description
Port No.	Displays the port number.
Ingress Idle Filtering	Enable or disable ingress idle filtering.
Maximum Frame Size	Allows you to select the maximum frame size supported by the FICON/FC. Valid range is from 2148 to 2172.

D.1.1.5 Alarm Behavior Tab

The Alarm Behavior tab allows you to view and update FC_MR alarm profile information.

Table D-6   Field Descriptions for the Alarm Behavior Tab

Field	Description
Card Profile	Choose a global alarm profile for the card from the drop-down list.
Port Number	Displays the FC_MR port number (1 to 4).
Alarm Profile	Choose an alarm profile for the slot from the drop-down list.
Suppress Alarms	If checked, all alarms are suppressed.
Force to All Ports	Forces the selected alarm profile to all FC_MR ports.

D.1.1.6 RMON Thresholds Tab

The RMON Thresholds tab allows you to create, view, and delete FC_MR-4 thresholds.

Table D-7   *Field Descriptions for the RMON Thresholds Tab*

Field	Description
Index Number	A unique value that identifies the different thresholds currently existing on the NE.
Slot	Select a slot for the new FC_MR threshold.
Port	Select a port for the selected slot. If you select All, the threshold will be created on all ports for that slot. This operation may take several minutes to complete.
Variable	Select a variable for the new FC_MR threshold. Available variables will differ based on the type of card selected in the Slot field.
Alarm Type	Select an alarm type for the new FC_MR threshold. Indicate whether the event will be triggered by the rising threshold, falling threshold, or both the rising and falling thresholds.
Sample Type	Select a sample type for the new FC_MR threshold. Available sample types are relative and absolute. Relative restricts the threshold to using the number of occurrences in the user-set sample period. Absolute sets the threshold to use the total number of occurrences, regardless of time period.
Sample Period	Enter a sample period for the new FC_MR threshold. The sample period is measured in seconds.
Rising Threshold	Enter a rising threshold for the new FC_MR threshold. The value must be equal to or greater than the falling threshold value.
Falling Threshold	Enter a falling threshold for the new FC_MR threshold. The value must be equal to or less than the rising threshold value.
Create	Click the **Create** button to create an FC_MR threshold.
Delete	Select an FC_MR threshold from the list displayed and click the **Delete** button.

D.1.1.7 J1 Path Trace Tab

The J1 Path Trace tab allows you to view and retrieve FC_MR-4 J1 path trace information.

Table D-8   *Field Descriptions for the J1 Path Trace Tab*

Column	Description
Port Number	Displays the port number.
STS Number/VC4 Number	Displays the STS or VC4 number.
Expected String	Displays the current expected string.
Received String	Displays the current received string.
Mode	Displays the path trace mode (Off/None, Auto, or Manual).
C2	Represents a machine-generated J1/J2 payload label byte.
Mismatch	Indicates whether there is a mismatch in the C2 byte received.
Vcat Mem Num	Displays the virtual concatenation (VCAT) member number.

D.1.1.8 GBIC Inventory Tab

The GBIC Inventory tab allows you to view GBIC inventory information.

Table D-9   Field Descriptions for the GBIC Inventory Tab

Field	Description
Port Number	Displays the GBIC card port number.
Equipment Type	Displays the equipment type the slot is provisioned for.
Actual Equipment Type	Displays the actual card that is installed in the slot. Values are single mode or multimode.
Hardware Part Number	Displays the manufacturer's part number.
Hardware Revision	Displays the hardware revision number.
Serial Number	Displays the GBIC serial number that is unique to each GBIC.
CLEI Code	Displays the CLEI code.
Application Filename	The application filename is not supported; therefore, this field displays "unknown."

D.1.1.9 Info Tab

The Info tab allows you to view nominal operating values set during manufacturing for the FC_MR-4 card.

Table D-10   Field Descriptions for the Info Tab

Field	Description
Extended Manufacturing Information	
Attribute	Displays the nominal card specification.
Value	Displays the value of the attribute.

Note   for descriptions of actions that can be performed using the buttons at the bottom of the window.

D.2 FMEC Cards

This section describes the following FMEC cards supported within CTM:

D.2.1 Slot Properties—FMEC-DS-1/E1

The Slot Properties pane displays information about the Cisco ONS 15454 SDH slot that is selected in the NE Explorer tree. Use this properties pane to change the module performance monitoring thresholds.

The ONS 15454 SDH FMEC-DS-1/E1 card provides front-mount electrical connection for 14 ITU-compliant, G.703 E-1 ports. With the FMEC-DS-1/E1 card, each E1-N-14 port operates at 2.048 Mbps over a 120-ohm, balanced cable through two 37-pin DB connectors.

For the FMEC DS-1/E1 module, the Slot Properties pane displays the following tabs: Module View and Identification.

D.2.1.1 Module View Tab

The Module View tab displays a graphic of the FMEC DS-1/E1 that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Alarms are also displayed when you move the mouse pointer over the graphic.) The Suppress Alarms check box is read-only and indicates whether all alarms are suppressed for the card and its port(s).

D.2.1.2 Identification Tab

The Identification tab allows you to view and update FMEC DS-1/E1 identification information.

Table D-11   Field Descriptions for the Identification Tab

Field	Description
Equipment Type	Displays the equipment type the slot is provisioned for.
Actual Equipment Type	Displays the actual card that is installed in the slot.
HW Part Number	Displays the card part number that is printed on the top of the card.
Hardware Revision	Displays the hardware version number of the card.
Serial Number	Displays the card serial number that is unique to each card.
CLEI Code	Displays the CLEI code.
Firmware Version	Displays the revision number of the software used by the ASIC chip installed on the card.
Equipment State	Displays the equipment state of the card.
Alarm Profile	Sets the alarm profile for the port. Check the **Suppress Alarms** check box to suppress all alarms for this card and its port(s).

Note   See Table 1-20 on page 1-44 for descriptions of actions that can be performed using the buttons at the bottom of the window.

D.2.2 Slot Properties—FMEC-DS-3/E3

The Slot Properties pane displays information about the Cisco ONS 15454 SDH slot that is selected in the NE Explorer tree. Use this properties pane to change the module performance monitoring thresholds.

The ONS 15454 SDH FMEC-DS-3/E3 card provides front-mount electrical connection for 14 ITU-compliant, G.703 E-1 ports. With the FMEC-DS-3/E3 card, each E1-N-14 port operates at 2.048 Mbps over a 120-ohm, balanced cable through two 37-pin DB connectors.

For the FMEC DS-3/E3 module, the Slot Properties pane displays the following tabs: Module View and Identification.

D.2.2.1 Module View Tab

The Module View tab displays a graphic of the FMEC DS-3/E3 that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Alarms are also displayed when you move the mouse pointer over the graphic.) The Suppress Alarms check box is read-only and indicates whether all alarms are suppressed for the card and its port(s).

D.2.2.2 Identification Tab

The Identification tab allows you to view and update FMEC DS-3/E3 identification information.

Table D-12   Field Descriptions for the Identification Tab

Field	Description
Equipment Type	Displays the equipment type the slot is provisioned for.
Actual Equipment Type	Displays the actual card that is installed in the slot.
HW Part Number	Displays the card part number that is printed on the top of the card.
Hardware Revision	Displays the hardware version number of the card.
Serial Number	Displays the card serial number that is unique to each card.
CLEI Code	Displays the CLEI code.
Firmware Version	Displays the revision number of the software used by the ASIC chip installed on the card.
Product ID	Displays a product ID string of 63 characters maximum. If the card does not support the product ID, the field shows N/A.
Version ID	Displays a version ID string in the format "V99_." The version ID always begins with a V and ends with a space. If the card does not support the version ID, the field shows N/A.
Equipment State	Displays the equipment state of the card.
Alarm Profile	Sets the alarm profile for the port. Check the **Suppress Alarms** check box to suppress all alarms for this card and its port(s).

Note   See Table 1-20 on page 1-44 for descriptions of actions that can be performed using the buttons at the bottom of the window.

D.2.3 Slot Properties—FMEC-E1

The Slot Properties pane displays information about the Cisco ONS 15454 SDH slot that is selected in the NE Explorer tree. Use this properties pane to change the module performance monitoring thresholds.

The ONS 15454 SDH FMEC-E1 card provides front-mount electrical connection for fourteen ITU-compliant, G.703 E-1 ports. With the FMEC-E1 card, each E1-N-14 port operates at 2.048 Mbps over a 75-ohm unbalanced coaxial 1.0/2.3 miniature coaxial connector.

For the FMEC-E1 module, the Slot Properties pane displays the following tabs: Module View, Identification, and Info.

D.2.3.1 Module View Tab

The Module View tab displays a graphic of the FMEC-E1 that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Alarms are also displayed when you move the mouse pointer over the graphic.) The Suppress Alarms check box is read-only and indicates whether all alarms are suppressed for the card and its port(s).

D.2.3.2 Identification Tab

The Identification tab allows you to view and update FMEC-E1 identification information.

Table D-13   Field Descriptions for the Identification Tab

Field	Description
Equipment Type	Displays the equipment type the slot is provisioned for.
Actual Equipment Type	Displays the actual card that is installed in the slot.
HW Part Number	Displays the card part number that is printed on the top of the card.
Hardware Revision	Displays the hardware revision number.
Serial Number	Displays the card serial number that is unique to each card.
CLEI Code	Displays the CLEI code.
Firmware Version	Displays the revision number of the software used by the ASIC chip installed on the card.
Product ID	Displays a product ID string of 63 characters maximum. If the card does not support the product ID, the field shows N/A.
Version ID	Displays a version ID string in the format "V99_." The version ID always begins with a V and ends with a space. If the card does not support the version ID, the field shows N/A.
Equipment State	Displays the equipment state of the card.
Alarm Profile	Sets the alarm profile for the port. Check the **Suppress Alarms** check box to suppress all alarms for this card and its port(s).

D.2.3.3 Info Tab

The Info tab allows you to view nominal operating values set during manufacturing for the FMEC-E1 card.

Table D-14   Field Descriptions for the Info Tab

Field	Description
Extended Manufacturing Information	
Attribute	Displays the nominal card specification.
Value	Displays the value of the attribute.

> **Note**   See Table 1-20 on page 1-44 for descriptions of actions that can be performed using the buttons at the bottom of the window.

D.2.4 Slot Properties—FMEC-E1-120NP

The Slot Properties pane displays information about the Cisco ONS 15454 SDH slot that is selected in the NE Explorer tree. Use this properties pane to change the module performance monitoring thresholds.

The ONS 15454 SDH FMEC-E1-120NP (Unprotected) card provides front-mount electrical connection for 42 ITU-compliant, G.703 E-1 ports. With the FMEC E1-120NP card, each E1-42 port operates at 2.048 Mbps over a 120-ohm, balanced interface. Twenty-one interfaces are led through one common Molex 96-pin LFH connector.

The ONS 15454 SDH FMEC E1-120PROA (1:3 Protect A) card provides front-mount electrical connection for 42 ITU-compliant, G.703 E-1 ports. With the FMEC E1-120PROA card, each E1-42 port operates at 2.048 Mbps over a 120-ohm, balanced interface. Twenty-one interfaces are led through one common Molex 96-pin LFH connector.

The ONS 15454 SDH FMEC E1-120PROB (1:3 Protect B) card provides front-mount electrical connection for 42 ITU-compliant, G.703 E-1 ports. With the FMEC E1-120PROB card, each E1-42 port operates at 2.048 Mbps over a 120-ohm, balanced interface. Twenty-one interfaces are led through one common Molex 96-pin LFH connector.

For the FMEC-E1-120NP module, the Slot Properties pane displays the following tabs: Module View, Identification, and Info.

D.2.4.1 Module View Tab

The Module View tab displays a graphic of the FMEC-E1-120NP that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Alarms are also displayed when you move the mouse pointer over the graphic.) The Suppress Alarms check box is read-only and indicates whether all alarms are suppressed for the card and its port(s).

D.2.4.2 Identification Tab

The Identification tab allows you to view and update FMEC-E1-120NP identification information.

Table D-15   Field Descriptions for the Identification Tab

Field	Description
Equipment Type	Displays the equipment type the slot is provisioned for.
Actual Equipment Type	Displays the actual card that is installed in the slot.
HW Part Number	Displays the card part number that is printed on the top of the card.
Hardware Revision	Displays the hardware revision number.
Serial Number	Displays the card serial number that is unique to each card.
CLEI Code	Displays the CLEI code.
Firmware Version	Displays the revision number of the software used by the ASIC chip installed on the card.

Table D-15   Field Descriptions for the Identification Tab (continued)

Field	Description
Product ID	Displays a product ID string of 63 characters maximum. If the card does not support the product ID, the field shows N/A.
Version ID	Displays a version ID string in the format "V99_." The version ID always begins with a V and ends with a space. If the card does not support the version ID, the field shows N/A.
Equipment State	Displays the equipment state of the card.
Alarm Profile	Sets the alarm profile for the port. Check the **Suppress Alarms** check box to suppress all alarms for this card and its port(s).

D.2.4.3 Info Tab

The Info tab allows you to view nominal operating values set during manufacturing for the FMEC-E1-120NP card.

Table D-16   Field Descriptions for the Info Tab

Field	Description
Extended Manufacturing Information	
Attribute	Displays the nominal card specification.
Value	Displays the value of the attribute.

✎
Note   See for descriptions of actions that can be performed using the buttons at the bottom of the window.

D.2.5 Slot Properties—FMEC-STM1E 1:1

The Slot Properties pane displays information about the Cisco ONS 15454 SDH slot that is selected in the NE Explorer tree. Use this properties pane to change the module performance monitoring thresholds.

The ONS 15454 SDH FMEC-STM1E 1:1 card provides front-mount electrical connection for 2 x 12 ITU-compliant, G.703 STM1E ports. With the FMEC-STM1E 1:1 card, each interface of an STM1E-12 card operates at 155.52 Mbps for STM-1 over a 75-ohm unbalanced coaxial 1.0/2.3 miniature coaxial connector. The FMEC STM1E 1:1 card is required if you want to use the STM1E-12 card in 1:1 protection mode or for connection to two unprotected STM1E-12 cards.

For the FMEC-STM1E card, the Slot Properties pane displays the following tabs: Module View, Identification, and Info.

D.2.5.1 Module View Tab

The Module View tab displays a graphic of the FMEC-STM1E 1:1 card that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Alarms are also displayed when you move the mouse pointer over the graphic.) The Suppress Alarms check box is read-only and indicates whether all alarms are suppressed for the card and its port(s).

D.2.5.2 Identification Tab

The Identification tab allows you to view and update the FMEC-STM1E 1:1 card identification information.

Table D-17   Field Descriptions for the Identification Tab

Field	Description
Equipment Type	Displays the equipment type the slot is provisioned for.
Actual Equipment Type	Displays the actual card that is installed in the slot.
HW Part Number	Displays the card part number that is printed on the top of the card.
Hardware Revision	Displays the hardware version number of the card.
Serial Number	Displays the card serial number that is unique to each card.
CLEI Code	Displays the CLEI code.
Firmware Version	Displays the revision number of the software used by the ASIC chip installed on the card.
Product ID	Displays a product ID string of 63 characters maximum. If the card does not support the product ID, the field shows N/A.
Version ID	Displays a version ID string in the format "V99_." The version ID always begins with a V and ends with a space. If the card does not support the version ID, the field shows N/A.
Administration State	The port administration state. It can be: • IS—In Service. • IS, AINS—Automatic In Service. • OOS, DSBLD—Out of Service, Disabled. • OOS, MT—Out of Service, Maintenance.

Table D-17   Field Descriptions for the Identification Tab (continued)

Field	Description
Service State	Overall availability of the entity. Values are: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped. There is nothing in the slot. • UAS—Unassigned. The entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic In Service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE release does not support the Service state, this field shows *N/A*.
Equipment State	Displays the equipment state of the card.
Alarm Profile	Sets the alarm profile for the port. Check the **Suppress Alarms** check box to suppress all alarms for this card and its port(s).

D.2.5.3 Info Tab

The Info tab allows you to view nominal operating values set during manufacturing for the FMEC-STM1E 1:1 card.

Table D-18   Field Descriptions for the Info Tab

Field	Description
Extended Manufacturing Information	
Attribute	Displays the nominal card specification.
Value	Displays the value of the attribute.

> **Note**   See Table 1-20 on page 1-44 for descriptions of actions that can be performed using the buttons at the bottom of the window.

D.2.6 Slot Properties—MIC-A/P

The Slot Properties pane displays information about the Cisco ONS 15454 SDH slot that is selected in the NE Explorer tree. Use this properties pane to change the module performance monitoring thresholds.

The MIC-A/P card provides connection for the BATTERY B input, one of the two possible redundant power supply inputs. It also provides connection for eight alarm outputs (coming from the TCC2 card), sixteen alarm inputs, and four configurable alarm inputs/outputs. Its position is in slot 23 in the center of the ONS 15454 SDH subrack EFCA area.

For the MIC-A/P module, the Slot Properties pane displays the following tabs: Module View and Identification.

D.2.6.1 Module View Tab

The Module View tab displays a graphic of the MIC-A/P that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Alarms are also displayed when you move the mouse pointer over the graphic.) The Suppress Alarms check box is read-only and indicates whether all alarms are suppressed for the card and its port(s).

D.2.6.2 Identification Tab

The Identification tab allows you to view and update MIC-A/P identification information.

Table D-19   Field Descriptions for the Identification Tab

Field	Description
Equipment Type	Displays the equipment type the slot is provisioned for.
Actual Equipment Type	Displays the actual card that is installed in the slot.
HW Part Number	Displays the card part number that is printed on the top of the card.
Hardware Revision	Displays the hardware version number of the card.
Serial Number	Displays the card serial number that is unique to each card.
CLEI Code	Displays the CLEI code.
Firmware Version	Displays the revision number of the software used by the ASIC chip installed on the card.
Product ID	Displays a product ID string of 63 characters maximum. If the card does not support the product ID, the field shows N/A.
Version ID	Displays a version ID string in the format "V99_." The version ID always begins with a V and ends with a space. If the card does not support the version ID, the field shows N/A.
Equipment State	Displays the equipment state of the card.
Alarm Profile	Sets the alarm profile for the port. Check the **Suppress Alarms** check box to suppress all alarms for this card and its port(s).

Note   for descriptions of actions that can be performed using the buttons at the bottom of the window.

D.2.7 Slot Properties—MIC-C/T/P

The Slot Properties pane displays information about the Cisco ONS 15454 SDH slot that is selected in the NE Explorer tree. Use this properties pane to change the module performance monitoring thresholds.

The MIC-C/T/P card provides connection for the BATTERY A input, one of the two possible redundant power supply inputs. It also provides connection for system management serial port, system management LAN port, modem port (for future use), and system timing inputs and outputs.

For the MIC-C/T/P module, the Slot Properties pane displays the following tabs: Module View and Identification.

D.2.7.1 Module View Tab

The Module View tab displays a graphic of the MIC-C/T/P that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Alarms are also displayed when you move the mouse pointer over the graphic.) The Suppress Alarms check box is read-only and indicates whether all alarms are suppressed for the card and its port(s).

D.2.7.2 Identification Tab

The Identification tab allows you to view and update MIC-C/T/P identification information.

Table D-20   Field Descriptions for the Identification Tab

Field	Description
Equipment Type	Displays the equipment type the slot is provisioned for.
Actual Equipment Type	Displays the actual card that is installed in the slot.
HW Part Number	Displays the card part number that is printed on the top of the card.
Hardware Revision	Displays the hardware version number of the card.
Serial Number	Displays the card serial number that is unique to each card.
CLEI Code	Displays the CLEI code.
Firmware Version	Displays the revision number of the software used by the ASIC chip installed on the card.
Product ID	Displays a product ID string of 63 characters maximum. If the card does not support the product ID, the field shows N/A.
Version ID	Displays a version ID string in the format "V99_." The version ID always begins with a V and ends with a space. If the card does not support the version ID, the field shows N/A.
Equipment State	Displays the equipment state of the card.
Alarm Profile	Sets the alarm profile for the port. Check the **Suppress Alarms** check box to suppress all alarms for this card and its port(s).

Note   See Table 1-20 on page 1-44 for descriptions of actions that can be performed using the buttons at the bottom of the window.

D.3 Multirate Cards

This section describes the following multirate cards supported within CTM:

D.3.1 Slot Properties—ASAP_4

The Slot Properties pane displays information about the Cisco ONS 15600 SONET slot that is selected in the NE Explorer tree. Use this properties pane to change the module performance monitoring thresholds.

The ONS 15600 SONET Any Service Any Port (ASAP_4) card provides up to 16 optical network interface ports, depending on the configuration. When configured for OC-192 XFP, the card provides a maximum of four OC-192 optical network interface ports. When the ASAP_4 card is configured with a combination of OC-192 XFP and lower-rate plugins such as OC-48, OC-12, or OC-3, the number of optical network interfaces is factored by four for each OC-192. For example, if the ASAP_4 card is configured with one OC-192, the card provides a maximum of 13 optical network interfaces (one for OC-192 and 12 for lower-rate plugins). If the ASAP_4 card is configured with two OC-192s, the card provides a maximum of 10 optical network interfaces (two for OC-192 and 8 for lower-rate plugins). The card can be installed in any I/O module card slot. The card provides 16 optical interfaces on the front panel. When configured for Ethernet, an ASAP port forwards Ethernet frames by encapsulating them in Cisco HDLC or GFP and transports them over SONET to the far-end GE port, where the unencapsulation is performed.

Introduced in the CTM R7.2 release, the new OC-192 XFP feature adds the capability to the existing ONS 15600 ASAP card to support 10 GB Small Form Factor Pluggable (XFP) optics. This functionality augments the ASAP card with an OC-192 line rate and allows the ASAP card to provide a range of optical service rates that scale from OC-3 to OC-192.

Note   The OC-192 XFP cannot be modified once it is configured.

The Slot Properties pane for the ASAP_4 card displays the following tabs: Module View, Card Identification, Pluggable Provisioning, Line, STS, Loopback, Protection, Alarm Behavior, J1 Path Trace, Info, Ether Line, Ether Loopback, Ether Alarm Behavior, POS Alarm Behavior, POS Line, and Transceiver.

D.3.1.1 Module View Tab

The Module View tab displays a graphic of the transponder that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Moving the mouse pointer over the graphic also displays the alarm counts.)

D.3.1.2 Card Identification Tab

The Card Identification tab allows you to view and update identification information.

Table D-21   Field Descriptions for the Card Identification Tab

Field	Description
Equipment Type	Displays the equipment type that the slot is provisioned for.
Hardware Part Number	Displays the card part number that is printed on the top of the card.
Hardware Revision	Displays the hardware revision number.
Serial Number	Displays the card serial number that is unique to each card.
CLEI Code	Displays the CLEI code.
Actual Equipment Type	Displays the actual card that is installed in the slot.
Firmware Version	Displays the revision number of the software used by the ASIC chip installed on the card.
User Code	Allows you to enter an ASCII string to identify the card. The user code is stored in nonvolatile memory so that it is not lost when the unit is moved or stored as a spare.
Product ID	Displays a product ID string of 63 characters maximum. If the card does not support the product ID, the field shows N/A.
Version ID	Displays a version ID string in the format "V99_." The version ID always begins with a V and ends with a space. If the card does not support the version ID, the field shows N/A.
Administration State	The port administration state. It can be: • IS—In Service. • IS, AINS—Automatic In Service. • OOS, DSBLD—Out of Service, Disabled. • OOS, MT—Out of Service, Maintenance.

Table D-21   Field Descriptions for the Card Identification Tab (continued)

Field	Description
Service State	Overall availability of the entity. Values are: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped. There is nothing in the slot. • UAS—Unassigned. The entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic In Service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE release does not support the Service state, this field shows *N/A*.
Equipment State	Displays the equipment state of the card.
Alarm Profile	Sets the alarm profile for the port. Check the **Suppress Alarms** check box to suppress all alarms for this card and its port(s).

D.3.1.3 Pluggable Provisioning Tab

The Pluggable Provisioning tab allows you to view and provision pluggable entities; for example, pluggable port module (PPM) and the ports inside these entities.

Table D-22   Field Descriptions for the Pluggable Provisioning Tab

Field	Description
Pluggable IO Module	
Pluggable Number	Displays the identifier of the plugin module.
Equipment Type	Displays the equipment type that the pluggable slot is provisioned for.
Hardware Part Number	Displays the card part number that is printed on the top of the card.
Hardware Revision	Displays the hardware revision number.
Serial Number	Displays the card serial number that is unique to each pluggable I/O module.
CLEI Code	Displays the CLEI code.

Table D-22   Field Descriptions for the Pluggable Provisioning Tab (continued)

Field	Description
Actual Equipment Type	Displays the actual pluggable I/O module that is installed in the pluggable slot.
Firmware Version	Displays the revision number of the software used by the ASIC chip installed on the pluggable I/O module.
User Code	Allows you to enter an ASCII string to identify the pluggable I/O module. The user code is stored in nonvolatile memory so that it is not lost when the unit is moved or stored as a spare.
Product ID	Displays a product ID string of 63 characters maximum. If the pluggable I/O module does not support the product ID, the field shows N/A.
Version ID	Displays a version ID string in the format "V99_." The version ID always begins with a V and ends with a space. If the card does not support the version ID, the field shows N/A.
Administration State	The port administration state. It can be: • IS—In Service. • IS, AINS—Automatic In Service. • OOS, DSBLD—Out of Service, Disabled. • OOS, MT—Out of Service, Maintenance.
Service State	Overall availability of the entity. Values are: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped. There is nothing in the slot. • UAS—Unassigned. The entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic In Service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE release does not support the Service state, this field shows *N/A*.
Equipment State	Displays the equipment state of the pluggable I/O module.
Pluggable Port Module	
Pluggable Number	Displays the identifier of the plugin module.

Table D-22   *Field Descriptions for the Pluggable Provisioning Tab (continued)*

Field	Description
Equipment Type	Displays the equipment type that the pluggable slot is provisioned for.
Hardware Part Number	Displays the card part number that is printed on the top of the card.
Hardware Revision	Displays the hardware revision number.
Serial Number	Displays the card serial number that is unique to each pluggable port module.
CLEI Code	Displays the CLEI code.
Actual Equipment Type	Displays the actual pluggable port module that is installed in the pluggable slot.
Firmware Version	Displays the revision number of the software used by the ASIC chip installed on the pluggable port module.
User Code	Allows you to enter an ASCII string to identify the pluggable port module. The user code is stored in nonvolatile memory so that it is not lost when the unit is moved or stored as a spare.
Product ID	Displays a product ID string of 63 characters maximum. If the pluggable port module does not support the product ID, the field shows N/A.
Version ID	Displays a version ID string in the format "V99_." The version ID always begins with a V and ends with a space. If the card does not support the version ID, the field shows N/A.
Administration State	The port administration state. It can be: • IS—In Service. • IS, AINS—Automatic In Service. • OOS, DSBLD—Out of Service, Disabled. • OOS, MT—Out of Service, Maintenance.
Service State	Overall condition of the port. It can be: • IS_NR—In Service and Normal • OOS_AU, AINS—Out of Service and Autonomous, Automatic In Service • OOS_MA, DSBLD—Out of Service and Management, Disabled • OOS_MA, MT—Out of Service and Management, Maintenance
Equipment State	Displays the equipment state of the pluggable port module.
Optical Ports	
Pluggable Number	Displays the identifier of the plugin module.
Equipment Type	Displays the equipment type that the optical port is provisioned for.
Ether Ports	
Pluggable Number	Displays the identifier of the plugin module.
Equipment Type	Displays the equipment type that the Ether port is provisioned for.

D.3.1.3.1 Provision Pluggable Dialog Box

Click the **Create** button to launch the Provision Pluggable dialog box. The Provision Pluggable dialog box allows you to provision pluggable entities; for example, the PPM and PIM, and to create the ports inside these entities. See for more information.

■ **Multirate Cards**

D.3.1.4 Line Tab

The Line tab allows you to view and update optical line performance monitoring information. The Line tab contains the following subtabs:

D.3.1.4.1 Line Config Subtab

The Line Config subtab allows you to view and change the line settings of the ASAP_4 card.

Table D-23   Field Descriptions for the Line Config Subtab

Field	Description
Port Number	Displays the port number.
Port Name	Allows you to add a name for the optical port.
SF BER	Sets the signal fail bit error rate.
SD BER	Sets the signal degrade bit error rate.
ProvidesSync	If checked, the card is provisioned as an NE timing reference.
EnableSyncMsg	When checked, enables synchronization status messages, which allow the node to choose the best timing source.
Send Do Not Use	When checked, sends a do not use (DUS) message on the S1 byte.
Administration State	The port administration state. It can be: • IS—In Service. • IS, AINS—Automatic In Service. • OOS, DSBLD—Out of Service, Disabled. • OOS, MT—Out of Service, Maintenance.
Synchronization Status Message	Allows you to view the incoming synchronization status message.
BLSR Ext. Byte	Select an alternate BLSR byte.
Type	Defines the port.

Table D-23   Field Descriptions for the Line Config Subtab (continued)

Field	Description
Service State	Overall availability of the entity. Values are: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped. There is nothing in the slot. • UAS—Unassigned. The entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic In Service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE release does not support the Service state, this field shows *N/A*.

Table D-23   Field Descriptions for the Line Config Subtab (continued)

Field	Description
Reach	Allows you to provision the reach value. You can choose Auto Provision, which allows the system to automatically provision the reach from the PPM reach value on the hardware. Choose one of the following reach distances: **Note** The reach distances options that appear in the drop-down list depend on the card selected. • SR (short reach, up to 2km distance) • SR 1 (up to 2km distance) • IR 1 (intermediate reach, up to 15km distance) • IR 2 (up to 40kmm distance) • LR 1 (long reach, up to 40km distance) • LR 2 (up to 80km distance) • LR 3 (up to 80km distance) • I1 • S1 • S2 • L1 • L2 • L3 • SX (up to 550m or 270m distance based on 50um/62.5um diameter fiber) • LX (up to 10km or 550m distance based on 50um/62.5um diameter fiber) • CX • T • DX (up to 40km distance) • HX (up to 40km distance) • ZX (up to 80km distance) • VX (up to 100km distance)
Wavelength	Allows you to provision the wavelength frequency.
AINS Soak (H:M)	Automatic in-service soak. The determination of duration left before the traffic/termination transitions to IS state.
AINS Soak Count Down (H:M)	Automatic in-service soak countdown. Displays the remaining time of valid input signal in *hh:mm*, after which the card becomes in service (IS) automatically.

D.3.1.4.2 Line Thresh 15 Min Subtab

The Line Thresh 15 Min subtab allows you to view and change the 15-minute near- and far-end line thresholds of the ASAP_4 card.

Table D-24   Field Descriptions for the Line Thresh 15 Min Subtab

Field	Description
Near End	
Port Number	Displays the optical port number
CV-L	Displays the coding violations–line
ES-L	Displays the errored seconds–line
SES-L	Displays the severely errored seconds–line
UAS-L	Displays the unavailable seconds–line
FC-L	Displays the failure count–line
PSC	Displays the protection switching count–line
PSD	Displays the protection switching duration–line
PSC-W	Displays the protection switching count–working
PSD-W	Displays the protection switching duration–working
PSC-S	Displays the protection switching count–span
PSD-S	Displays the protection switching duration–span
PSC-R	Displays the protection switching count–ring
PSD-R	Displays the protection switching duration–ring
Far End	
Port Number	Displays the optical port number
CV-L	Displays the coding violations–line
ES-L	Displays the errored seconds–line
SES-L	Displays the severely errored seconds–line
UAS-L	Displays the unavailable seconds–line
FC-L	Displays the failure count–line

D.3.1.4.3 Line Thresh 1 Day Subtab

The Line Thresh 1 Day subtab allows you to view and change the 1-day near- and far-end line thresholds of the ASAP_4 card.

Table D-25   Field Descriptions for the Line Thresh 1 Day Subtab

Field	Description
Near End	
Port Number	Displays the optical port number
CV-L	Displays the coding violations–line
ES-L	Displays the errored seconds–line
SES-L	Displays the severely errored seconds–line
UAS-L	Displays the unavailable seconds–line
FC-L	Displays the failure count–line

Table D-25   Field Descriptions for the Line Thresh 1 Day Subtab (continued)

Field	Description
PSC	Displays the protection switching count–line
PSD	Displays the protection switching duration–line
PSC-W	Displays the protection switching count–working
PSD-W	Displays the protection switching duration–working
PSC-S	Displays the protection switching count–span
PSD-S	Displays the protection switching duration–span
PSC-R	Displays the protection switching count–ring
PSD-R	Displays the protection switching duration–ring
Far End	
Port Number	Displays the optical port number
CV-L	Displays the coding violations–line
ES-L	Displays the errored seconds–line
SES-L	Displays the severely errored seconds–line
UAS-L	Displays the unavailable seconds–line
FC-L	Displays the failure count–line

D.3.1.4.4 Physical Thresh 15 Min Subtab

The Physical Thresh 15 Min subtab allows you to view and change the 15-minute near-end physical thresholds of the ASAP_4 card.

Table D-26   Field Descriptions for the Physical Thresh 15 Min Subtab

Field	Description
Near End	
Port Number	Displays the port number.
LBC-HIGH	Laser bias current maximum. Cisco default is (15 min): 150 percent.
LBC-LOW	Laser bias current minimum. Cisco default is (15 min): 50 percent.
OPT-HIGH	Optical power transmitted maximum. Cisco default is (15 min): 120 percent.
OPT-LOW	Optical power transmitted minimum. Cisco default is (15 min): 80 percent.
OPR-HIGH	Optical power received maximum. Cisco default is (15 min): 200 percent.
OPR-LOW	Optical power received minimum. Cisco default is (15 min): 50 percent.
Set OPR	Setting the optical power received (OPR) establishes the received power level as 100 percent. If the receiver power decreases, then the OPR percentage decreases to reflect the loss in receiver power. For example, if the receiver power decreases 3 dBm, the OPR decreases 50 percent.

D.3.1.4.5 Physical Thresh 1 Day Subtab

The Physical Thresh 1 Day subtab allows you to view and change the 1-day near-end physical thresholds of the ASAP_4 card.

Table D-27   Field Descriptions for the Physical Thresh 1 Day Subtab

Field	Description
Near End	
Port Number	Displays the port number.
LBC-HIGH	Laser bias current maximum. Cisco default is (15 min): 150 percent.
LBC-LOW	Laser bias current minimum. Cisco default is (15 min): 50 percent.
OPT-HIGH	Optical power transmitted maximum. Cisco default is (15 min): 120 percent.
OPT-LOW	Optical power transmitted minimum. Cisco default is (15 min): 80 percent
OPR-HIGH	Optical power received maximum. Cisco default is (15 min): 200 percent.
OPR-LOW	Optical power received minimum. Cisco default is (15 min): 50 percent.
Set OPR	Setting the optical power received (OPR) establishes the received power level as 100 percent. If the receiver power decreases, then the OPR percentage decreases to reflect the loss in receiver power. For example, if the receiver power decreases 3 dBm, the OPR decreases 50 percent.

D.3.1.4.6 Section Thresh 15 Min Subtab

The Section Thresh 15 Min subtab allows you to view and change the 15-minute near-end section thresholds of the ASAP_4 card.

Table D-28   Field Descriptions for the Section Thresh 15 Min Subtab

Field	Description
Near End	
Port Number	Displays the port number.
CV-S	Displays the coding violations–section.
ES-S	Displays the errored seconds–section.
SES-S	Displays the severely errored seconds–section.
SEFS-S	Displays the severely errored framing seconds–section.

D.3.1.4.7 Section Thresh 1 Day Subtab

The Section Thresh 1 Day subtab allows you to view and change the 1-day near-end section thresholds of the ASAP_4 card.

Table D-29   Field Descriptions for the Section Thresh 1 Day Subtab

Field	Description
Near End	
Port Number	Displays the port number.
CV-S	Displays the coding violations–section.
ES-S	Displays the errored seconds–section.
SES-S	Displays the severely errored seconds–section.
SEFS-S	Displays the severely errored framing seconds–section.

D.3.1.4.8 Alarm Thresh Subtab

The Alarm Thresh subtab allows you to select the thresholds for the alarms.

Table D-30   Field Descriptions for the Alarm Thresh Subtab

Field	Description
Port No.	Port number.
LBC-HIGH	Laser bias current maximum.
LBC-LOW	Laser bias current minimum.
OPT-HIGH	Optical power transmitted maximum.
OPT-LOW	Optical power transmitted minimum.
OPR-HIGH	Optical power received maximum.
OPR-LOW	Optical power received minimum.
Set OPR	Setting the optical power received (OPR) establishes the received power level as 100 percent. If the receiver power decreases, then the OPR percentage decreases to reflect the loss in receiver power. For example, if the receiver power decreases 3 dBm, the OPR decreases 50 percent.

D.3.1.5 STS Tab

The STS tab allows you to view and update ASAP_4 STS information. The STS tab contains the following subtabs:

- D.3.1.5.1 STS Config Subtab, page D-28
- D.3.1.5.2 Path Thresh 15 Min Subtab, page D-28
- D.3.1.5.3 Path Thresh 1 Day Subtab, page D-29
- D.3.1.5.4 Customer Info Subtab, page D-30

D.3.1.5.1 STS Config Subtab

The STS Config subtab allows you to view and change the STS settings of the ASAP_4 card.

Table D-31   Field Descriptions for the STS Config Subtab

Field	Description
STS Number	Displays the synchronous transport signal number information.
IPPM Enabled	Check to enable IPPM and uncheck to disable IPPM.
XC Loopback	Displays the cross-connect loopback status.

D.3.1.5.2 Path Thresh 15 Min Subtab

The Path Thresh 15 Min subtab allows you to view and change the 15-minute path thresholds of the ASAP_4 card.

Table D-32   Field Descriptions for the Path Thresh 15 Min Subtab

Field	Description
Near End	
STS Number	Displays the synchronous transport signal number information.
CV-P	Displays coding violations–path information.
ES-P	Displays errored seconds–path information.
SES-P	Displays severely errored seconds–path information.
UAS-P	Displays unavailable seconds–path information.
FC-P	Displays failure count–path information.
PPJC-Pdet	Displays positive pointer justification count, STS path detected.
NPJC-Pdet	Displays negative pointer justification count, STS path detected.
PPJC-Pgen	Displays positive pointer justification count, STS path generated.
NPJC-Pgen	Displays negative pointer justification count, STS path generated.
Far End	
STS No	Displays the synchronous transport signal number information.
CV-P	Displays coding violations–path information.
ES-P	Displays errored seconds–path information.
FC-P	Displays failure count–path information.
SES-P	Displays severely errored seconds–path information.
UAS-P	Displays unavailable seconds–path information.

D.3.1.5.3 Path Thresh 1 Day Subtab

The Path Thresh 1 Day subtab allows you to view and change the 1-day path thresholds of the ASAP_4 card.

Table D-33   Field Descriptions for the Path Thresh 1 Day Subtab

Field	Description
Near End	
STS Number	Displays the synchronous transport signal number information.
CV-P	Displays coding violations–path information.
ES-P	Displays errored seconds–path information.
SES-P	Displays severely errored seconds–path information.
UAS-P	Displays unavailable seconds–path information.
FC-P	Displays failure count–path information.
PPJC-Pdet	Displays positive pointer justification count, STS path detected.
NPJC-Pdet	Displays negative pointer justification count, STS path detected.
PPJC-Pgen	Displays positive pointer justification count, STS path generated.
NPJC-Pgen	Displays negative pointer justification count, STS path generated.

Table D-33   Field Descriptions for the Path Thresh 1 Day Subtab (continued)

Field	Description
Far End	
STS No	Displays the synchronous transport signal number information.
CV-P	Displays coding violations–path information.
ES-P	Displays errored seconds–path information.
FC-P	Displays failure count–path information.
SES-P	Displays severely errored seconds–path information.
UAS-P	Displays unavailable seconds–path information.

D.3.1.5.4 Customer Info Subtab

The Customer Info subtab allows you to view the customer information.

Table D-34   Field Descriptions for the Customer Info Subtab

Field	Description
STS No.	The STS number
Customer ID	The user-defined customer ID number
Service ID	The user-defined service ID number

D.3.1.6 Loopback Tab

The Loopback tab allows you to view and update loopback information.

Table D-35   Field Descriptions for the Loopback Tab

Field	Description
Port Number	Displays the port number.
Loopback Type	Allows you to configure a port to terminal loopback (Inward) or Facility (Line), or clear the current loopback (none). **Note** The line state must be OOS_MT before you can configure the loopback type.

Table D-35   Field Descriptions for the Loopback Tab (continued)

Field	Description
Administration State	The port administration state. It can be: • IS—In Service. • IS, AINS—Automatic In Service. • OOS, DSBLD—Out of Service, Disabled. • OOS, MT—Out of Service, Maintenance.
Service State	Overall availability of the entity. Values are: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped. There is nothing in the slot. • UAS—Unassigned. The entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic In Service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE release does not support the Service state, this field shows *N/A*.

D.3.1.7 Protection Tab

The Protection tab allows you to view and update ASAP_4 protection group information.

Table D-36   Field Descriptions for the Protection Tab

Field	Description
Protection Groups	Displays a list of available protection groups.
Protection Group Details	Displays details about the selected protection group.

D.3.1.8 Alarm Behavior Tab

The Alarm Behavior tab allows you to view and update alarm profile information.

Table D-37   Field Descriptions for the Alarm Behavior Tab

Field	Description
Port Number	Displays the card port number.
Alarm Profile	Choose an alarm profile for the port from the drop-down list. Values are Default, Inherited, or a customized alarm profile.
Suppress Alarms	If checked, all alarms are suppressed for the port.
Alarm Profile	Choose an alarm profile for all ports.
Force to All Ports	When clicked, forces all the ports to the selected alarm profile.

D.3.1.9 J1 Path Trace Tab

The J1 Path Trace tab allows you to view and update J1 path trace information.

Table D-38   Field Descriptions for the J1 Path Trace Tab

Field	Description
Port Number	Displays the port number.
STS Number	Displays the STS number.
Expected String	Displays the current expected string.
Received String	Displays the current received string.
Mode	Displays the path trace mode (Off/None, Auto, or Manual).
C2	Represents a machine-generated J1/J2 payload label byte.

D.3.1.10 Info Tab

The Info tab allows you to view nominal operating values set during manufacturing for the ASAP_4 card.

Table D-39   Field Descriptions for the Info Tab

Field	Description
Extended Manufacturing Information	
Attribute	Displays the nominal card specification.
Value	Displays the value of the attribute.

D.3.1.11 Ether Line Tab

The Ether Line tab allows you to configure Ether line information.

Table D-40   Field Descriptions for the Ether Line Tab

Field	Description
Port Number	The port number.
Port Name	Allows you to enter a port name.

Table D-40   Field Descriptions for the Ether Line Tab (continued)

Field	Description
Admin State	The port administration state. It can be: • IS—In Service. • IS, AINS—Automatic In Service. • OOS, DSBLD—Out of Service, Disabled. • OOS, MT—Out of Service, Maintenance.
Service State	Overall availability of the entity. Values are: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped. There is nothing in the slot. • UAS—Unassigned. The entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic In Service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE release does not support the Service state, this field shows *N/A*.
Link State	Displays the physical port state. Possible values are Up, Down, or Not Present.
Flow Control	Displays the negotiated flow control mode. Values are None, Symmetrical, and Asymmetrical.
Negotiation Status	Displays the result of the most-recent auto-negotiation. The type of flow control that was negotiated will be displayed.
Auto Negotiation	Allows you to enable the card to match the speed and duplex mode of a partner node.
Max Frame	Sets the maximum frame size.
Flow Control Low	Sets the low flow control buffer level.
Flow Control High	Sets the high flow control buffer level.

Table D-40   Field Descriptions for the Ether Line Tab (continued)

Field	Description
Reach	Allows you to provision the reach value. You can choose Auto Provision, which allows the system to automatically provision the reach from the PPM reach value on the hardware. Choose one of the following reach distances: **Note** The reach distances options that appear in the drop-down list depend on the card selected. • SR (short reach, up to 2km distance) • SR 1 (up to 2km distance) • IR 1 (intermediate reach, up to 15km distance) • IR 2 (up to 40kmm distance) • LR 1 (long reach, up to 40km distance) • LR 2 (up to 80km distance) • LR 3 (up to 80km distance) • I1 • S1 • S2 • L1 • L2 • L3 • SX (up to 550m or 270m distance based on 50um/62.5um diameter fiber) • LX (up to 10km or 550m distance based on 50um/62.5um diameter fiber) • CX • T • DX (up to 40km distance) • HX (up to 40km distance) • ZX (up to 80km distance) • VX (up to 100km distance)
Wavelength	Allows you to provision the wavelength frequency.
AINS Soak (H:M)	Automatic in-service soak. The determination of duration left before the traffic/termination transitions to IS state.
AINS Soak Count Down (H:M)	Automatic in-service soak countdown. Displays the remaining time of valid input signal in *hh:mm*, after which the card becomes in service (IS) automatically.

D.3.1.12 Ether Loopback Tab

The Ether Loopback tab allows loopback to be configured in the Ether port. The Ether Loopback tab contains the following subtabs:

D.3.1.12.1 Ether Loopback Port Subtab

The Ether Loopback Port subtab allows you to configure Ethernet loopback port information.

Table D-41   Field Descriptions for the Ether Loopback Port Subtab

Field	Description
Port Number	The port number.
Loopback Type	Allows you to configure a port to terminal loopback (Inward) or Facility (Line), or clear the current loopback (none). **Note** The line state must be OOS_MT before you can configure the loopback type.
Administration State	The port administration state. It can be: • IS—In Service. • IS, AINS—Automatic In Service. • OOS, DSBLD—Out of Service, Disabled. • OOS, MT—Out of Service, Maintenance.
Service State	Overall availability of the entity. Values are: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped. There is nothing in the slot. • UAS—Unassigned. The entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic In Service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE release does not support the Service state, this field shows *N/A*.

D.3.1.12.2 SONET STS (Ether) Subtab

The SONET STS (Ether) subtab allows you to configure loopback on cross-connects.

Table D-42   Field Descriptions for the SONET STS (Ether) Subtab

Field	Description
STS	Displays the STS number
XC Loopback	Displays the cross-connect loopback status.

D.3.1.13 Alarm Behavior Tab

The Alarm Behavior tab contains the following subtabs:

- D.3.1.13.1 Ether Alarm Behavior Subtab, page D-36
- D.3.1.13.2 POS Alarm Behavior Subtab, page D-36

D.3.1.13.1 Ether Alarm Behavior Subtab

The Ether Alarm Behavior subtab allows you to view and update Ether alarm profile information.

Table D-43   Field Descriptions for the Ether Alarm Behavior Subtab

Field	Description
Port Number	Displays the card port number.
Alarm Profile	Choose an alarm profile for the port from the drop-down list. Values are Default, Inherited, or a customized alarm profile.
Suppress Alarms	If checked, all alarms are suppressed for the port.
Force to All Ports	When clicked, forces all the ports to the selected alarm profile.

D.3.1.13.2 POS Alarm Behavior Subtab

The POS Alarm Behavior subtab allows you to view and update POS alarm profile information.

Table D-44   Field Descriptions for the POS Alarm Behavior Subtab

Field	Description
Port Number	Displays the card port number.
Alarm Profile	Choose an alarm profile for the port from the drop-down list. Values are Default, Inherited, or a customized alarm profile.
Suppress Alarms	If checked, all alarms are suppressed for the port.
Force to All Ports	When clicked, forces all the ports to the selected alarm profile.

D.3.1.14 POS Line Tab

The POS Line tab allows you to view and update alarm profile information.

Table D-45   Field Descriptions for the POS Line Tab

Field	Description
Port Number	Displays the card port number.
Port Name	Allows you to enter a port name.
Admin State	The port administration state. It can be: • IS—In Service. • IS, AINS—Automatic In Service. • OOS, DSBLD—Out of Service, Disabled. • OOS, MT—Out of Service, Maintenance.
Service State	Overall availability of the entity. Values are: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped. There is nothing in the slot. • UAS—Unassigned. The entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic In Service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE release does not support the Service state, this field shows *N/A*.
Encap CRC	Sets the cyclic redundancy check (CRC) to verify the integrity of the transmitted data.
Framing Type	Allows you to select the line framing type.
Link State	Displays the physical port state. Possible values are Up and Down.
MTU	Maximum transfer unit. The largest acceptable packet size configured for that port. The Cisco default value is 1500.

D.3.1.15 Transceiver Tab

The Transceiver tab allows you to view and update ASAP_4 transceiver information.

Table D-46   Field Descriptions for the Transceiver Tab

Field	Description
Port No.	PIM number, PPM number, Port number.
Non-normalized LBC (mA)	The actual operating value of laser bias current (in mA) for the specified card port.
Non-normalized OPT (dBm)	The actual operating value of optical power transmitted (in dBm) for the specified card port.
Non-normalized OPR (dBm)	The actual operating value of optical power received (in dBm) for the specified card port.

Note   See Table 1-20 on page 1-44 for descriptions of actions that can be performed using the buttons at the bottom of the window.

D.3.2 Slot Properties—MRC-12

The Slot Properties pane displays information about the Cisco ONS 15454 SONET and ONS 15454 SDH slot that is selected in the NE Explorer tree. Use this properties pane to change the module performance monitoring thresholds.

The MRC-12 multirate card (MRC) provides up to 12 OC-3/STM-1 ports, 12 OC-12/STM-4 ports, or 4 OC-48/STM-16 ports using Small Form-factor Pluggables (SFPs), in any combination of line rates. All ports are Telcordia GR-253 compliant. The SFP optics can use SR, IR, LR, coarse wavelength division multiplexing (CWDM), and DWDM SFPs to support unrepeated spans.

The ports operate at up to 2488.32 Mbps over a single-mode fiber. The MRC-12 card has 12 physical connector adapters with 2 fibers per connector adapter (Tx and Rx). The card supports VT payloads, STS-1 payloads, and concatenated payloads at STS-3c, STS-6c, STS-9c, STS-12c, STS-18c, STS-24c, STS-36c, or STS-48c signal levels. It is fully interoperable with the ONS 15454 G-Series Ethernet cards.

The card supports 1+1 unidirectional and bidirectional facility protection. It also supports 1+1 protection in 4-fiber BLSR applications for the ONS 15454 SONET and in 4-fiber MS-SPRing applications for the ONS 15454 SDH, where both span switching and ring switching might occur. You can provision this card as part of a BLSR, UPSR, or 1+1 linear configuration for the ONS 15454 SONET or an MS-SPRing, SNCP, or linear configuration for the ONS 15454 SDH.

Note   Longer distances are possible in an amplified system using dispersion compensation.

Note   MRC-12 cards can only protect another MRC-12 card if the card is in the same speed slot (drop or trunk slot) and if both ports have matching line rates. For example, port 1 of the MRC-12 card 1 will protect port 1 of the MRC-12 card 2 only if both ports are provisioned with the same rate (for example, OC12/STM-4). If the ports are provisioned with different rates, you cannot set a 1+1 protection.

You can install MRC-12 cards in Slots 1 through 6 and 12 through 17 with an XCVT, XC10G, XC-VXL-2.5G, XC-VXL-10G, or XC-VXC-10G card.

Note   The MRC-12 card supports an errorless software-initiated cross-connect card switch when used in a shelf equipped with XC-VXL-2.5G, XC-VXL-10G, or XC-VXC-10G cards.

The maximum bandwidth of the MRC-12 card is determined by the cross-connect card, as shown in the following table.

Table D-47   Maximum Bandwidth by Shelf Slot for the MRC-12 in Different Cross-Connect Configurations

XC Card Type	Maximum Bandwidth in the Drop Slot[1] (Slots 1 to 4 and Slots 14 to 17)	Maximum Bandwidth in the Trunk Slot[2] (Slots 5, 6, 12, or 13)
XCVT	OC-12	OC-48
XC10G/XC-VXC-10G	OC-48	OC-192
XC-VXL-2.5G	STM-16	STM-16
XC-VXC-10G/XC-VXL-10G	STM-16	STM-64

1. Drop slots are low-speed slots

2. Trunk slots are high-speed slots

The twelve ports of the MRC-12 card are divided into four groups, with each group having a master port as shown in the following table.

Table D-48   Port Grouping

Group	Ports Included	Master Port
1	1	1
2	2, 3, 4	4
3	5, 6, 7, 8	7
4	9, 10, 11, 12	10

Following are the general port rate configuration rules:

- The maximum bandwidth for each port is OC-48.
- Port 1 can occupy all possible backplane bandwidth but cannot exceed OC-48.
- Each port group can have a maximum of 25% backplane bandwidth, except for group 1.
- Only a master port can occupy all possible bandwidth assigned to the group.

Based on the cross-connect card and slot limitations shown in Table D-47, the following rules apply for various synchronous transport signal (STS) available bandwidths:

- STS-12
  - Port 1 is the only port that is usable as an OC-12/STM-4. If port 1 is used as an OC-12/STM-4, all other ports are disabled.
  - Ports 1, 4, 7, and 10 are the only ports usable as OC-3/STM-1. If any of these ports is used as an OC-3/STM-1, Ports 2, 3, 5, 6, 8, 9, 11, and 12 are disabled.
- STS-48
  - Port 1 is the only port usable as an OC-48/STM-16. If port 1 is used as an OC-48/STM-16, all other ports are disabled.
  - Ports 1, 4, 7, and 10 are the only ports usable as OC-12/STM-4.
  - If port 4 is used as an OC-12/STM-4, Ports 2 and 3 are disabled.

- If port 7 is used as an OC-12/STM-4, Ports 5, 6, and 8 are disabled.

- If port 10 is used as an OC-12/STM-4, Ports 9, 11, and 12 are disabled.

- Any port can be used as an OC-3/STM-1 as long as all of the above rules are followed.

- STS-192

  - Ports 1, 4, 7, and 10 are the only ports usable as OC-48/STM-16.

  - If port 4 is used as an OC-48/STM-16, Ports 2 and 3 are disabled.

  - If port 7 is used as an OC-48/STM-16, Ports 5, 6, and 8 are disabled.

  - If port 10 is used as an OC-48/STM-16, Ports 9, 11, and 12 are disabled.

  - If port 4 is used as an OC-12/STM-4, Ports 2 and 3 can be used as an OC-12/STM-4 or OC-3/STM-1.

  - If port 7 is used as an OC-12/STM-4, Ports 5, 6, and 8 can be used as an OC-12/STM-4 or OC-3/STM-1.

  - If Port 10 is as used as an OC-12/STM-4, Ports 9, 11, and 12 can be used as an OC-12/STM-4 or OC-3/STM-1.

  - If port 4 is used as an OC-3/STM-1, Ports 2 and 3 can be used as an OC-12/STM-4 or OC-3/STM-1.

  - If port 7 is used as an OC-3/STM-1, Ports 5, 6, and 8 can be used as an OC-12/STM-4 or OC-3/STM-1.

  - If port 10 is used as an OC-3/STM-1, Ports 9, 11, and 12 can be used as an OC-12/STM-4 or OC-3/STM-1.

  - Any port can be used as an OC-12/STM-4 or OC-3/STM-1, as long as all of the above rules are followed.

For the MRC-12 card, the Slot Properties pane displays the following tabs: Module View, Identification, Pluggable Provisioning, Line, STS, VC-4 (available only on the ONS 15454 SDH), Loopback, Protection, Alarm Behavior, Transceiver, Auto Laser Shutdown, Section Trace, J1 Path Trace, and Info. The tabs shown depend on the NE configuration.

D.3.2.1 Module View Tab

The Module View tab displays a graphic of the transponder that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Moving the mouse pointer over the graphic also displays the alarm counts.) Right-clicking the graphic opens a shortcut menu that you can use to reset, delete, or change the card.

D.3.2.2 Identification Tab

The Identification tab allows you to view and update MRC-12 card identification information.

Table D-49   Field Descriptions for the Identification Tab

Field	Description
Equipment Type	Displays the equipment type that the slot is provisioned for.
Actual Equipment Type	Displays the actual card that is installed in the slot.
Hardware Part Number	Displays the card part number that is printed on the top of the card.

Table D-49   Field Descriptions for the Identification Tab (continued)

Field	Description
Hardware Revision	Displays the hardware revision number.
Serial Number	Displays the card serial number that is unique to each card.
CLEI Code	Displays the CLEI code.
Firmware Version	Displays the revision number of the software used by the ASIC chip installed on the card.
Product ID	Displays a product ID string of 63 characters maximum. If the card does not support the product ID, the field shows N/A.
Version ID	Displays a version ID string in the format "V99_." The version ID always begins with a V and ends with a space. If the card does not support the version ID, the field shows N/A.
Admin State	The port administration state. It can be: • IS—In Service. • IS, AINS—Automatic In Service. • OOS, DSBLD—Out of Service, Disabled. • OOS, MT—Out of Service, Maintenance.
Service State	Overall availability of the entity. Values are: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped. There is nothing in the slot. • UAS—Unassigned. The entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic In Service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE release does not support the Service state, this field shows *N/A*.
Equipment State	Displays the equipment state of the card.
Alarm Profile	Sets the alarm profile for the port. Check the **Suppress Alarms** check box to suppress all alarms for this card and its port(s).

D.3.2.3 Pluggable Provisioning Tab

The Pluggable Provisioning tab allows you to view and provision pluggable entities; for example, pluggable port module (PPM) and the ports inside these entities.

Table D-50   Field Descriptions for the Pluggable Provisioning Tab

Field	Description
Pluggable Port Modules	
Pluggable Number	Displays the identifier of the plugin module.
Actual Equipment Type	Displays the actual pluggable I/O module that is installed in the pluggable slot.
Equipment State	Displays the equipment state of the card.
Admin State	The port administration state. It can be: • IS—In Service. • IS, AINS—Automatic In Service. • OOS, DSBLD—Out of Service, Disabled. • OOS, MT—Out of Service, Maintenance.
Service State	Overall availability of the entity. Values are: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped. There is nothing in the slot. • UAS—Unassigned. The entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic In Service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE release does not support the Service state, this field shows *N/A*.
Pluggable Ports	
Pluggable Number	Displays the identifier of the plugin module.
Rate	Displays the rate of the port inside the pluggable entity.

D.3.2.3.1 Provision Pluggable Dialog Box

Click the **Create** button to launch the Provision Pluggable dialog box. The Provision Pluggable dialog box allows you to provision pluggable entities; for example, the PPM and PIM, and to create the ports inside these entities. See C.1.7.5.1 Provision Pluggable Dialog Box, page C-37 for more information.

D.3.2.3.2 Create Port Dialog Box

Use the Create Port dialog box to configure the port rate for a particular pluggable port module (PPM). In the Port Rate field, use the drop-down list to select the new port rate and click **OK**.

D.3.2.4 Line Tab (ONS 15454 SONET)

The Line tab allows you to view and update optical line performance monitoring information. The Line tab contains the following subtabs:

D.3.2.4.1 Line Config Subtab

The Line Config subtab allows you to view and change the line settings of the MRC-12 card.

Table D-51   Field Descriptions for the Line Config Subtab

Field	Description
Port Number	Displays the port number.
Port Name	Allows you to add a name for the optical port.
Administration State	The port administration state. It can be: • IS—In Service. • IS, AINS—Automatic In Service. • OOS, DSBLD—Out of Service, Disabled. • OOS, MT—Out of Service, Maintenance.
Port Rate	Sets the rate of the new port.

Table D-51   Field Descriptions for the Line Config Subtab (continued)

Field	Description
Service State	Overall availability of the entity. Values are: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped. There is nothing in the slot. • UAS—Unassigned. The entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic In Service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE release does not support the Service state, this field shows *N/A*.
SF BER	Sets the signal fail bit error rate.
SD BER	Sets the signal degrade bit error rate.
Provide Sync	If checked, the card is provisioned as an NE timing reference.
EnableSyncMsg	When checked, enables synchronization status messages, which allow the node to choose the best timing source.
Send Do Not Use	When checked, sends a do not use (DUS) message on the S1 byte.
BLSR Ext. Byte	Select an alternate BLSR byte.
Type	Defines the port.
AINS Soak (H:M)	Automatic in-service soak. The determination of duration left before the traffic/termination transitions to IS state.
AINS Soak Count Down (H:M)	Automatic in-service soak countdown. Displays the remaining time of valid input signal in *hh:mm*, after which the card becomes in service (IS) automatically.

Table D-51   Field Descriptions for the Line Config Subtab (continued)

Field	Description
Admin SSM	If the node does not receive an SSM signal, it defaults to STU (synchronization traceability unknown). Admin SSM allows you to override the STU value with one of the following: • PRS—Primary reference source (Stratum 1) • STS2—Stratum 2 • TNC—Transit node clock • STS3E—Stratum 3E • STS3—Stratum 3 • SMC—SONET minimum clock • ST4—Stratum 4
Send <FF> DoNotUse	When checked, sends a special do not use (DUS) (0xff) message on the S1 byte.
PJSTSMon#	Sets the STS that will be used for pointer justification. If set to 0, no STS is monitored. Only one STS can be monitored on each OC-N port. • 0 (Cisco default) - 3 (OC-3, per port) • 0 (Cisco default) - 12 (OC-12)

Table D-51   Field Descriptions for the Line Config Subtab (continued)

Field	Description
Reach	Allows you to provision the reach value. You can choose Auto Provision, which allows the system to automatically provision the reach from the PPM reach value on the hardware. Choose one of the following reach distances:
	Note The reach distances options that appear in the drop-down list depend on the card selected.
	• SR (short reach, up to 2km distance)
	• SR 1 (up to 2km distance)
	• IR 1 (intermediate reach, up to 15km distance)
	• IR 2 (up to 40kmm distance)
	• LR 1 (long reach, up to 40km distance)
	• LR 2 (up to 80km distance)
	• LR 3 (up to 80km distance)
	• I1
	• S1
	• S2
	• L1
	• L2
	• L3
	• SX (up to 550m or 270m distance based on 50um/62.5um diameter fiber)
	• LX (up to 10km or 550m distance based on 50um/62.5um diameter fiber)
	• CX
	• T
	• DX (up to 40km distance)
	• HX (up to 40km distance)
	• ZX (up to 80km distance)
	• VX (up to 100km distance)
Wavelength	Allows you to provision the wavelength frequency.

D.3.2.4.2 Line Thresh 15 Min Subtab

The Line Thresh 15 Min subtab allows you to view and change the 15-minute near- and far-end line thresholds of the MRC-12 card.

Table D-52   Field Descriptions for the Line Thresh 15 Min Subtab

Field	Description
Near End	
Port Number	Displays the optical port number

Table D-52   Field Descriptions for the Line Thresh 15 Min Subtab (continued)

Field	Description
ES-L	Displays the errored seconds–line
SES-L	Displays the severely errored seconds–line
CV-L	Displays the coding violations–line
UAS-L	Displays the unavailable seconds–line
FC-L	Displays the failure count–line
PSC	Protection switching count–line
PSD	Protection switching duration–line
PSC-W	Protection switching count–working
PSD-W	Protection switching duration–working
PSC-S	Protection switching count–span
PSD-S	Protection switching duration–span
PSC-R	Protection switching count–ring
PSD-R	Protection switching duration–ring
Far End	
Port Number	Displays the optical port number
ES-L	Displays the errored seconds–line
SES-L	Displays the severely errored seconds–line
CV-L	Displays the coding violations–line
UAS-L	Displays the unavailable seconds–line
FC-L	Displays the failure count–line

D.3.2.4.3 Line Thresh 1 Day Subtab

The Line Thresh 1 Day subtab allows you to view and change the 1-day near- and far-end line thresholds of the MRC-12 card.

Table D-53   Field Descriptions for the Line Thresh 1 Day Subtab

Field	Description
Near End	
Port Number	Displays the optical port number
ES-L	Displays the errored seconds–line
SES-L	Displays the severely errored seconds–line
CV-L	Displays the coding violations–line
UAS-L	Displays the unavailable seconds–line
FC-L	Displays the failure count–line
PSC	Protection switching count–line
PSD	Protection switching duration–line

Table D-53   Field Descriptions for the Line Thresh 1 Day Subtab (continued)

Field	Description
PSC-W	Protection switching count–working
PSD-W	Protection switching duration–working
PSC-S	Protection switching count–span
PSD-S	Protection switching duration–span
PSC-R	Protection switching count–ring
PSD-R	Protection switching duration–ring
Far End	
Port Number	Displays the optical port number
ES-L	Displays the errored seconds–line
SES-L	Displays the severely errored seconds–line
CV-L	Displays the coding violations–line
UAS-L	Displays the unavailable seconds–line
FC-L	Displays the failure count–line

D.3.2.4.4 Physical Thresh 15 Min Subtab

The Physical Thresh 15 Min subtab allows you to view and change the 15-minute near-end physical thresholds of the MRC-12 card.

Table D-54   Field Descriptions for the Physical Thresh 15 Min Subtab

Field	Description
Near End	
Port Number	Displays the port number.
LBC-HIGH	Laser bias current maximum. Cisco default is (15 min): 150 percent.
LBC-LOW	Laser bias current minimum. Cisco default is (15 min): 50 percent.
OPT-HIGH	Optical power transmitted maximum. Cisco default is (15 min): 120 percent.
OPT-LOW	Optical power transmitted minimum. Cisco default is (15 min): 80 percent.
OPR-HIGH	Optical power received maximum. Cisco default is (15 min): 200 percent.
OPR-LOW	Optical power received minimum. Cisco default is (15 min): 50 percent.
Set OPR	Setting the optical power received (OPR) establishes the received power level as 100 percent. If the receiver power decreases, then the OPR percentage decreases to reflect the loss in receiver power. For example, if the receiver power decreases 3 dBm, the OPR decreases 50 percent.

D.3.2.4.5 Physical Thresh 1 Day Subtab

The Physical Thresh 1 Day subtab allows you to view and change the 1-day near-end physical thresholds of the MRC-12 card.

Table D-55   Field Descriptions for the Physical Thresh 1 Day Subtab

Field	Description
Near End	
Port Number	Displays the port number.
LBC-HIGH	Laser bias current maximum. Cisco default is (15 min): 150 percent.
LBC-LOW	Laser bias current minimum. Cisco default is (15 min): 50 percent.
OPT-HIGH	Optical power transmitted maximum. Cisco default is (15 min): 120 percent.
OPT-LOW	Optical power transmitted minimum. Cisco default is (15 min): 80 percent
OPR-HIGH	Optical power received maximum. Cisco default is (15 min): 200 percent.
OPR-LOW	Optical power received minimum. Cisco default is (15 min): 50 percent.
Set OPR	Setting the optical power received (OPR) establishes the received power level as 100 percent. If the receiver power decreases, then the OPR percentage decreases to reflect the loss in receiver power. For example, if the receiver power decreases 3 dBm, the OPR decreases 50 percent.

D.3.2.4.6 Section Thresh 15 Min Subtab

The Section Thresh 15 Min subtab allows you to view and change the 15-minute near-end section thresholds of the MRC-12 card.

Table D-56   Field Descriptions for the Section Thresh 15 Min Subtab

Field	Description
Near End	
Port Number	Displays the port number.
CV-S	Displays the coding violations–section.
ES-S	Displays the errored seconds–section.
SES-S	Displays the severely errored seconds–section.
SEFS-S	Displays the severely errored framing seconds–section.

D.3.2.4.7 Section Thresh 1 Day Subtab

The Section Thresh 1 Day subtab allows you to view and change the 1-day near-end section thresholds of the MRC-12 card.

Table D-57   Field Descriptions for the Section Thresh 1 Day Subtab

Field	Description
Near End	
Port Number	Displays the port number.
CV-S	Displays the coding violations–section.
ES-S	Displays the errored seconds–section.
SES-S	Displays the severely errored seconds–section.
SEFS-S	Displays the severely errored framing seconds–section.

■ Multirate Cards

D.3.2.4.8 Alarm Thresholds Subtab

The Alarm Thresholds subtab allows you to select the thresholds for the alarms.

Table D-58   Field Descriptions for the Alarm Thresholds Subtab

Field	Description
Port No.	Port number.
LBC-HIGH	Laser bias current maximum.
LBC-LOW	Laser bias current minimum.
OPT-HIGH	Optical power transmitted maximum.
OPT-LOW	Optical power transmitted minimum.
OPR-HIGH	Optical power received maximum.
OPR-LOW	Optical power received minimum.
Set OPR	Setting the optical power received (OPR) establishes the received power level as 100 percent. If the receiver power decreases, then the OPR percentage decreases to reflect the loss in receiver power. For example, if the receiver power decreases 3 dBm, the OPR decreases 50 percent.

D.3.2.5 Line Tab (ONS 15454 SDH)

The Line tab allows you to view and update optical line performance monitoring information. The Line tab contains the following subtabs:

D.3.2.5.1 Line Config Subtab

The Line Config subtab allows you to view and change the line settings of the MRC-12 card.

Table D-59   Field Descriptions for the Line Config Subtab

Field	Description
Port Number	Displays the port number.
Port Name	Allows you to add a name for the optical port.

Table D-59   *Field Descriptions for the Line Config Subtab (continued)*

Field	Description
Admin State	The port administration state. It can be: • IS—In Service. • IS, AINS—Automatic In Service. • OOS, DSBLD—Out of Service, Disabled. • OOS, MT—Out of Service, Maintenance.
Port Rate	Sets the rate of the new port.
Service State	Overall availability of the entity. Values are: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped. There is nothing in the slot. • UAS—Unassigned. The entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic In Service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE release does not support the Service state, this field shows *N/A*.
SF BER	Sets the signal fail bit error rate.
SD BER	Sets the signal degrade bit error rate.
Provide Sync	If checked, the card is provisioned as an NE timing reference.
EnableSyncMsg	When checked, enables synchronization status messages, which allow the node to choose the best timing source.
Send Do Not Use	When checked, sends a do not use (DUS) message on the S1 byte.
MS-SPRing Ext. Byte	Select an alternate MS-SPRing byte.
Type	Defines the port.
AINS Soak (H:M)	Automatic in-service soak. The determination of duration left before the traffic/termination transitions to IS state.

Table D-59   Field Descriptions for the Line Config Subtab (continued)

Field	Description
AINS Soak Count Down (H:M)	Automatic in-service soak countdown. Displays the remaining time of valid input signal in *hh:mm*, after which the card becomes in service (IS) automatically.
Admin SSM	If the node does not receive an SSM signal, it defaults to STU (synchronization traceability unknown). Admin SSM allows you to override the STU value with one of the following: • PRS—Primary reference source (Stratum 1) • STS2—Stratum 2 • TNC—Transit node clock • STS3E—Stratum 3E • STS3—Stratum 3 • SMC—SONET minimum clock • ST4—Stratum 4
Send <FF> DoNotUse	When checked, sends a special do not use (DUS) (0xff) message on the S1 byte.
PJ VC-4 Mon#	Sets the VC that will be used for pointer justification. If set to 0, no VC is monitored. Only one VC can be monitored on each STM port.

Table D-59   Field Descriptions for the Line Config Subtab (continued)

Field	Description
Reach	Allows you to provision the reach value. You can choose Auto Provision, which allows the system to automatically provision the reach from the PPM reach value on the hardware. Choose one of the following reach distances: **Note** The reach distances options that appear in the drop-down list depend on the card selected. • SR (short reach, up to 2km distance) • SR 1 (up to 2km distance) • IR 1 (intermediate reach, up to 15km distance) • IR 2 (up to 40kmm distance) • LR 1 (long reach, up to 40km distance) • LR 2 (up to 80km distance) • LR 3 (up to 80km distance) • I1 • S1 • S2 • L1 • L2 • L3 • SX (up to 550m or 270m distance based on 50um/62.5um diameter fiber) • LX (up to 10km or 550m distance based on 50um/62.5um diameter fiber) • CX • T • DX (up to 40km distance) • HX (up to 40km distance) • ZX (up to 80km distance) • VX (up to 100km distance)
Wavelength	Allows you to provision the wavelength frequency.

D.3.2.5.2 MS Thresh 15 Min Subtab

The MS Thresh 15 Min subtab allows you to view and change the 15-minute near- and far-end line thresholds of the MRC-12 card.

Table D-60   Field Descriptions for the MS Thresh 15 Min Subtab

Field	Description
Near End	
Port Number	Displays the optical port number

Table D-60   Field Descriptions for the MS Thresh 15 Min Subtab (continued)

Field	Description
EB-MS	Displays the errored block–multiplex section
BBE-MS	Displays the background block errors–multiplex section
ES-MS	Displays the errored seconds–multiplex section
SES-MS	Displays the severely errored seconds–multiplex section
UAS-MS	Displays the unavailable seconds–multiplex section
PSC	Displays the protection switching count
PSD	Displays the protection switching duration
PSC-W	Displays the protection switching count–working
PSD-W	Displays the protection switching duration–working
PSC-S	Displays the protection switching count–span
PSD-S	Displays the protection switching duration–span
PSC-R	Displays the protection switching count–ring
PSD-R	Displays the protection switching duration–ring
Far End	
Port Number	Displays the optical port number
EB-MS	Displays the errored block–multiplex section
BBE-MS	Displays the background block errors–multiplex section
ES-MS	Displays the errored seconds–multiplex section
SES-MS	Displays the severely errored seconds–multiplex section
UAS-MS	Displays the unavailable seconds–multiplex section

D.3.2.5.3 MS Thresh 1 Day Subtab

The MS Thresh 1 Day subtab allows you to view and change the 1-day near- and far-end line thresholds of the MRC-12 card.

Table D-61   Field Descriptions for the MS Thresh 1 Day Subtab

Field	Description
Near End	
Port Number	Displays the optical port number
EB-MS	Displays the errored block–multiplex section
BBE-MS	Displays the background block errors–multiplex section
ES-MS	Displays the errored seconds–multiplex section
SES-MS	Displays the severely errored seconds–multiplex section
UAS-MS	Displays the unavailable seconds–multiplex section
PSC	Displays the protection switching count
PSD	Displays the protection switching duration

Table D-61   Field Descriptions for the MS Thresh 1 Day Subtab (continued)

Field	Description
PSC-W	Displays the protection switching count–working
PSD-W	Displays the protection switching duration–working
PSC-S	Displays the protection switching count–span
PSD-S	Displays the protection switching duration–span
PSC-R	Displays the protection switching count–ring
PSD-R	Displays the protection switching duration–ring
Far End	
Port Number	Displays the optical port number
EB-MS	Displays the errored block–multiplex section
BBE-MS	Displays the background block errors–multiplex section
ES-MS	Displays the errored seconds–multiplex section
SES-MS	Displays the severely errored seconds–multiplex section
UAS-MS	Displays the unavailable seconds–multiplex section

D.3.2.5.4 Physical Thresh 15 Min Subtab

The Physical Thresh 15 Min subtab allows you to view and change the 15-minute near-end physical thresholds of the MRC-12 card.

Table D-62   Field Descriptions for the Physical Thresh 15 Min Subtab

Field	Description
Near End	
Port Number	Displays the port number.
LBC-HIGH	Laser bias current maximum. Cisco default is (15 min): 150 percent.
LBC-LOW	Laser bias current minimum. Cisco default is (15 min): 50 percent.
OPT-HIGH	Optical power transmitted maximum. Cisco default is (15 min): 120 percent.
OPT-LOW	Optical power transmitted minimum. Cisco default is (15 min): 80 percent.
OPR-HIGH	Optical power received maximum. Cisco default is (15 min): 200 percent.
OPR-LOW	Optical power received minimum. Cisco default is (15 min): 50 percent.
Set OPR	Setting the optical power received (OPR) establishes the received power level as 100 percent. If the receiver power decreases, then the OPR percentage decreases to reflect the loss in receiver power. For example, if the receiver power decreases 3 dBm, the OPR decreases 50 percent.

D.3.2.5.5 Physical Thresh 1 Day Subtab

The Physical Thresh 1 Day subtab allows you to view and change the 1-day near-end physical thresholds of the MRC-12 card.

Table D-63   Field Descriptions for the Physical Thresh 1 Day Subtab

Field	Description
Near End	
Port Number	Displays the port number.
LBC-HIGH	Laser bias current maximum. Cisco default is (15 min): 150 percent.
LBC-LOW	Laser bias current minimum. Cisco default is (15 min): 50 percent.
OPT-HIGH	Optical power transmitted maximum. Cisco default is (15 min): 120 percent.
OPT-LOW	Optical power transmitted minimum. Cisco default is (15 min): 80 percent
OPR-HIGH	Optical power received maximum. Cisco default is (15 min): 200 percent.
OPR-LOW	Optical power received minimum. Cisco default is (15 min): 50 percent.
Set OPR	Setting the optical power received (OPR) establishes the received power level as 100 percent. If the receiver power decreases, then the OPR percentage decreases to reflect the loss in receiver power. For example, if the receiver power decreases 3 dBm, the OPR decreases 50 percent.

D.3.2.5.6 RS Thresh 15 Min

The RS Thresh 15 Min subtab allows you to view and change the 15-minute near-end section thresholds of the MRC-12 card.

Table D-64   Field Descriptions for the RS Thresh 15 Min Subtab

Field	Description
Near End	
Port Number	Displays the optical port number
EB-RS	Displays the errored block–regenerator section
BBE-RS	Displays the background block errors–regenerator section
ES-RS	Displays the errored seconds–regenerator section
SES-RS	Displays the severely errored seconds–regenerator section
UAS-RS	Displays the unavailable seconds–regenerator section
OFS-RS	Displays the out of framing seconds–regenerator section

D.3.2.5.7 RS Thresh 1 Day Subtab

The RS Thresh 1 Day subtab allows you to view and change the 1-day near-end section thresholds of the MRC-12 card.

Table D-65   Field Descriptions for the RS Thresh 1 Day Subtab

Field	Description
Near End	
Port Number	Displays the optical port number
EB-RS	Displays the errored block–regenerator section
BBE-RS	Displays the background block errors–regenerator section

Table D-65   Field Descriptions for the RS Thresh 1 Day Subtab (continued)

Field	Description
ES-RS	Displays the errored seconds–regenerator section
SES-RS	Displays the severely errored seconds–regenerator section
UAS-RS	Displays the unavailable seconds–regenerator section
OFS-RS	Displays the out of framing seconds–regenerator section

D.3.2.5.8 Alarm Thresholds Subtab

The Alarm Thresholds subtab allows you to select the thresholds for the alarms.

Table D-66   Field Descriptions for the Alarm Thresholds Subtab

Field	Description
Port No.	Port number.
LBC-HIGH	Laser bias current maximum.
LBC-LOW	Laser bias current minimum.
OPT-HIGH	Optical power transmitted maximum.
OPT-LOW	Optical power transmitted minimum.
OPR-HIGH	Optical power received maximum.
OPR-LOW	Optical power received minimum.
Set OPR	Setting the optical power received (OPR) establishes the received power level as 100 percent. If the receiver power decreases, then the OPR percentage decreases to reflect the loss in receiver power. For example, if the receiver power decreases 3 dBm, the OPR decreases 50 percent.

D.3.2.6 STS Tab (ONS 15454 SONET)

The STS tab allows you to view and update MRC-12 STS information. The STS tab contains the following subtabs:

D.3.2.6.1 STS Config Subtab

The STS Config subtab allows you to view and change the STS settings of the MRC-12 card.

Table D-67   Field Descriptions for the STS Config Subtab

Field	Description
STS Number	Displays the synchronous transport signal number information.
IPPM Enabled	Check to enable IPPM and uncheck to disable IPPM.
XC Loopback	Displays the cross-connect loopback status.

D.3.2.6.2 Path Thresh 15 Min Subtab

The Path Thresh 15 Min subtab allows you to view and change the 15-minute path thresholds of the MRC-12 card.

Table D-68   Field Descriptions for the Path Thresh 15 Min Subtab

Field	Description
Near End	
STS Number	Displays the synchronous transport signal number information.
CV-P	Displays coding violations–path information.
ES-P	Displays errored seconds–path information.
SES-P	Displays severely errored seconds–path information.
UAS-P	Displays unavailable seconds–path information.
FC-P	Displays failure count–path information.
PPJC-Pdet	Displays positive pointer justification count, STS path detected.
NPJC-Pdet	Displays negative pointer justification count, STS path detected.
PPJC-Pgen	Displays positive pointer justification count, STS path generated.
NPJC-Pgen	Displays negative pointer justification count, STS path generated.
PJCS-Pdet	Displays positive pointer justification count, STS path detected.
PJCS-Pgen	Displays positive pointer justification count, STS path generated.
PJC-Diff	Displays the sum of the absolute values of differences between positive transmitted and received, and negative transmitted and received. The important metric on pointer justification is not the exact counts, but how many were absorbed.
Far End	
STS No.	Displays the synchronous transport signal number information.
CV-P	Displays coding violations–path information.
ES-P	Displays errored seconds–path information.
SES-P	Displays severely errored seconds–path information.
UAS-P	Displays unavailable seconds–path information.
FC-P	Displays failure count–path information.

D.3.2.6.3 Path Thresh 1 Day Subtab

The Path Thresh 1 Day subtab allows you to view and change the 1-day path thresholds of the MRC-12 card.

Table D-69   Field Descriptions for the Path Thresh 1 Day Subtab

Field	Description
Near End	
STS Number	Displays the synchronous transport signal number information.
CV-P	Displays coding violations–path information.
ES-P	Displays errored seconds–path information.

Table D-69   Field Descriptions for the Path Thresh 1 Day Subtab (continued)

Field	Description
SES-P	Displays severely errored seconds–path information.
UAS-P	Displays unavailable seconds–path information.
FC-P	Displays failure count–path information.
PPJC-Pdet	Displays positive pointer justification count, STS path detected.
NPJC-Pdet	Displays negative pointer justification count, STS path detected.
PPJC-Pgen	Displays positive pointer justification count, STS path generated.
NPJC-Pgen	Displays negative pointer justification count, STS path generated.
PJCS-Pdet	Displays positive pointer justification count, STS path detected.
PJCS-Pgen	Displays positive pointer justification count, STS path generated.
PJC-Diff	Displays the sum of the absolute values of differences between positive transmitted and received, and negative transmitted and received. The important metric on pointer justification is not the exact counts, but how many were absorbed.
Far End	
STS No.	Displays the synchronous transport signal number information.
CV-P	Displays coding violations–path information.
ES-P	Displays errored seconds–path information.
SES-P	Displays severely errored seconds–path information.
UAS-P	Displays unavailable seconds–path information.
FC-P	Displays failure count–path information.

D.3.2.6.4 Customer Info Subtab

The Customer Info subtab allows you to view the customer information.

Table D-70   Field Descriptions for the Customer Info Subtab

Field	Description
STS No.	The STS number.
Customer ID	The user-defined customer ID number.
Service ID	The user-defined service ID number.

D.3.2.7 VC-4 Tab (ONS 15454 SDH)

The VC-4 tab allows you to view and update MRC-12 VC-4 information. The VC-4 tab contains the following subtabs:

D.3.2.7.1 VC-4 Config Subtab

The VC-4 Config subtab allows you to view and change the VC-4 settings of the MRC-12 card.

Table D-71   Field Descriptions for the VC-4 Config Subtab

Field	Description
VC Number	Displays the VC number.
IPPM Enabled	Check to enable intermediate path performance monitoring (IPPM) and uncheck to disable IPPM.
XC Loopback	Indicates cross-connect loopback.

D.3.2.7.2 SDH Path Thresh 15 Min Subtab

The SDH Path Thresh 15 Min subtab allows you to view and change the 15-minute path thresholds of the MRC-12 card.

Table D-72   Field Descriptions for the SDH Path Thresh 15 Min Subtab

Field	Description
Near End	
VC Number	Displays the VC-4 port number.
EB-HP	Errored block–higher order path.
ES-HP	Errored seconds–higher order path.
SES-HP	Severely errored seconds–higher order path.
UAS-HP	Unavailable seconds–higher order path.
BBE-HP	Background block errors–higher order path.
PPJC-Pdet	Positive Pointer Justification Count, Path Detected (PPJC-Pdet) is a count of the positive pointer justifications detected on a particular path on an incoming SDH signal.
NPJC-Pdet	Negative Pointer Justification Count, Path Detected (NPJC-Pdet) is a count of the negative pointer justifications detected on a particular path on an incoming SDH signal.
PPJC-Pgen	Positive Pointer Justification Count, Path Generated (PPJC-Pgen) is a count of the positive pointer justifications generated for a particular path.
NPJC-Pgen	Negative Pointer Justification Count, Path Generated (MS-NPJC-Pgen) is a count of the negative pointer justifications generated for a particular path.
PJCS-Pdet	Number of Higher Order Path Pointer Justification Count Seconds detected on a particular path.
PJCS-Pgen	Number of Higher Order Path Pointer Justification Count Seconds generated for a particular path.
PJC-Diff	Displays the sum of the absolute values of differences between positive transmitted and received, and negative transmitted and received. The important metric on pointer justification is not the exact counts, but how many were absorbed.
Far End	
VC Number	Displays the VC-4 port number.
EB-HP	Errored block–higher order path.
ES-HP	Errored seconds–higher order path.
SES-HP	Severely errored seconds–higher order path.

Table D-72   Field Descriptions for the SDH Path Thresh 15 Min Subtab (continued)

Field	Description
UAS-HP	Unavailable seconds–higher order path.
BBE-HP	Background block errors–higher order path.

D.3.2.7.3 SDH Path Thresh 1 Day Subtab

The SDH Path Thresh 1 Day subtab allows you to view and change the 1-day path thresholds of the MRC-12 card.

Table D-73   Field Descriptions for the SDH Path Thresh 15 Min Subtab

Field	Description
Near End	
VC Number	Displays the VC-4 port number.
EB-HP	Errored block–higher order path.
ES-HP	Errored seconds–higher order path.
SES-HP	Severely errored seconds–higher order path.
UAS-HP	Unavailable seconds–higher order path.
BBE-HP	Background block errors–higher order path.
PPJC-Pdet	Positive Pointer Justification Count, Path Detected (PPJC-Pdet) is a count of the positive pointer justifications detected on a particular path on an incoming SDH signal.
NPJC-Pdet	Negative Pointer Justification Count, Path Detected (NPJC-Pdet) is a count of the negative pointer justifications detected on a particular path on an incoming SDH signal.
PPJC-Pgen	Positive Pointer Justification Count, Path Generated (PPJC-Pgen) is a count of the positive pointer justifications generated for a particular path.
NPJC-Pgen	Negative Pointer Justification Count, Path Generated (MS-NPJC-Pgen) is a count of the negative pointer justifications generated for a particular path.
PJCS-Pdet	Number of Higher Order Path Pointer Justification Count Seconds detected on a particular path.
PJCS-Pgen	Number of Higher Order Path Pointer Justification Count Seconds generated for a particular path.
PJC-Diff	Displays the sum of the absolute values of differences between positive transmitted and received, and negative transmitted and received. The important metric on pointer justification is not the exact counts, but how many were absorbed.
Far End	
VC Number	Displays the VC-4 port number.
EB-HP	Errored block–higher order path.
ES-HP	Errored seconds–higher order path.
SES-HP	Severely errored seconds–higher order path.
UAS-HP	Unavailable seconds–higher order path.
BBE-HP	Background block errors–higher order path.

D.3.2.7.4 Customer Info Subtab

The Customer Info subtab allows you to view the customer information.

Table D-74   Field Descriptions for the Customer Info Subtab

Field	Description
VC No.	The VC number.
Customer ID	The user-defined customer ID number.
Service ID	The user-defined service ID number.

D.3.2.8 Loopback Tab

The Loopback tab allows you to view and update loopback information.

Table D-75   Field Descriptions for the Loopback Tab

Field	Description
Port Number	Displays the port number.
Administration State	The port administration state. It can be: • IS—In Service. • IS, AINS—Automatic In Service. • OOS, DSBLD—Out of Service, Disabled. • OOS, MT—Out of Service, Maintenance.
Loopback Type	Allows you to configure a port to terminal loopback (Inward) or Facility (Line), or clear the current loopback (none). **Note** The line state must be OOS_MT before you can configure the loopback type.

Table D-75   Field Descriptions for the Loopback Tab (continued)

Field	Description
Service State	Overall availability of the entity. Values are: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped. There is nothing in the slot. • UAS—Unassigned. The entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic In Service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE release does not support the Service state, this field shows *N/A*.
Send AIS on Facility Loopback	When selected, sends AIS on the facility loopback.
Send AIS on Terminal Loopback	When selected, sends AIS on the terminal loopback.

D.3.2.9 Protection Tab

The Protection tab allows you to view and update MRC-12 protection group information.

Table D-76   Field Descriptions for the Protection Tab

Field	Description
Protection Groups	Displays a list of available protection groups.
Protection Group Details	Displays details about the selected protection group.

D.3.2.10 Alarm Behavior Tab

The Alarm Behavior tab allows you to view and update alarm profile information.

Table D-77   Field Descriptions for the Alarm Behavior Tab

Field	Description
Port Number	Displays the card port number.
Alarm Profile	Choose an alarm profile for the port from the drop-down list. Values are Default, Inherited, or a customized alarm profile.
Suppress Alarms	If checked, all alarms are suppressed for the port.
Alarm Profile	Choose an alarm profile for all ports.
Force to All Ports	When clicked, forces all the ports to the selected alarm profile.

D.3.2.11 Transceiver Tab

The Transceiver tab allows you to view and update MRC-12 transceiver information.

Table D-78   Field Descriptions for the Transceiver Tab

Field	Description
Port No.	PIM number, PPM number, Port number.
Non-normalized LBC (mA)	The actual operating value of laser bias current (in mA) for the specified card port.
Non-normalized OPT (dBm)	The actual operating value of optical power transmitted (in dBm) for the specified card port.
Non-normalized OPR (dBm)	The actual operating value of optical power received (in dBm) for the specified card port.

D.3.2.12 Auto Laser Shutdown Tab

The Auto Laser Shutdown tab allows you to view and update MRC-12 ALS parameters.

Table D-79   Field Descriptions for the Auto Laser Shutdown Tab

Field	Description
Port No.	Displays the port number.
ALS Mode	Displays the ALS mode (Disabled, Auto Restart, Manual Restart, or Manual Restart for Test).
Rec. Pulse Dur. (sec)	Allows you to set the received laser pulse duration, in seconds. The range is 2.0 to 100.0 seconds.
Rec. Pulse Int. (sec)	Allows you to set the received laser pulse interval, in seconds. The range is 60 to 300 seconds.
Status	Displays the current laser status. Values are Shutdown or Not Shutdown.
Request Restart	If selected, it allows you to request a laser restart. This parameter is configurable only when the ALS mode is set to Manual Restart or Manual Restart for Test and when the laser status is Shut Down.

D.3.2.13 Section Trace Subtab

The Section Trace subtab allows you to change the section trace settings for the MRC-12 card.

Table D-80   Field Descriptions for the Section Trace Subtab

Field	Description
Port Number	Displays the port number.
Trace Mode	The trace mode (Off/None or Manual).
Disable AIS/RDI on TIM-S	Allows you to disable the Alarm Indication Signal (AIS) and the Remote Defect Indication (RDI) when the path Trace Identifier Mismatch Section (TIM-S) alarm is detected.
Transmit Length	Select a transmit length for the trace.
Current Transmit String	Displays the current transmit string. The trail trace identifier is 64 bytes in length.
Current Expected String	Displays the current expected string; sets a new expected string.
Current Received String	Displays the current received string.

D.3.2.14 J1 Path Trace Tab

The J1 Path Trace tab allows you to view and update J1 path trace information.

Table D-81   Field Descriptions for the J1 Path Trace Tab

Field	Description
Port Number	Displays the port number.
STS | VC-4 Number	Displays the STS or VC-4 number.
Expected String	Displays the current expected string.
Received String	Displays the current received string.
Mode	Displays the path trace mode (Off/None, Auto, or Manual).
C2	Represents a machine-generated J1/J2 payload label byte.

D.3.2.15 Info Tab

The Info tab allows you to view nominal operating values set during manufacturing for the MRC-12 card.

Table D-82   Field Descriptions for the Info Tab

Field	Description
Extended Manufacturing Information	
Attribute	Displays the nominal card specification.
Value	Displays the value of the attribute.

✎
Note   See Table 1-20 on page 1-44 for descriptions of actions that can be performed using the buttons at the bottom of the window.

D.4 Optical Cards

This section describes the following optical cards supported within CTM:

D.4.1 Slot Properties—OC12 IR/STM4 SH 1310

The Slot Properties pane displays information about the Cisco ONS 15327 or ONS 15454 slot that is selected in the NE Explorer tree. Use this properties pane to change the module performance monitoring thresholds.

The ONS 15454 Optical Connector (OC12 IR/STM4 SH 1310) card provides one intermediate or short range SONET/SDH OC-12 port compliant with the International Telecommunication Union (ITU) G.707, ITU-T G.957, and Telcordia GR-253-CORE. The port operates at 622.08 Mbps over a single-mode fiber span. The card supports VT and nonconcatenated or concatenated payloads at STS-1, STS-3c, STS-6c, or STS-12c signal levels.

For the OC12 IR/STM4 SH 1310 module, the Slot Properties pane displays the following tabs: Module View, Identification, Line, STS, Loopback, Protection, Alarm Behavior, and Info.

D.4.1.1 Module View Tab

The Module View tab displays a graphic of the OC12 IR/STM4 SH 1310 that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Alarms are also displayed when you move the mouse pointer over the graphic.) The Suppress Alarms check box is read-only and indicates whether all alarms are suppressed for the card and its port(s). Right-clicking the graphic opens a shortcut menu that you can use to reset, delete, or change the card.

D.4.1.2 Identification Tab

The Identification tab allows you to view and update OC12 IR/STM4 SH 1310 identification information.

Table D-83   Field Descriptions for the Identification Tab

Field	Description
Equipment Type	Displays the equipment type that the slot is provisioned for.
Actual Equipment Type	Displays the actual card that is installed in the slot.
Hardware Part Number	Displays the card part number that is printed on the top of the card.
Hardware Revision	Displays the hardware revision number.
Serial Number	Displays the card serial number that is unique to each card.
CLEI Code	Displays the CLEI code.
Firmware Version	Displays the revision number of the software used by the ASIC chip installed on the card.
Product ID	Displays a product ID string of 63 characters maximum. If the card does not support the product ID, the field shows N/A.
Version ID	Displays a version ID string in the format "V99_." The version ID always begins with a V and ends with a space. If the card does not support the version ID, the field shows N/A.
Administration State	The port administration state. It can be: • IS—In Service. • IS, AINS—Automatic In Service. • OOS, DSBLD—Out of Service, Disabled. • OOS, MT—Out of Service, Maintenance.

Table D-83   Field Descriptions for the Identification Tab (continued)

Field	Description
Service State	Overall availability of the entity. Values are: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped. There is nothing in the slot. • UAS—Unassigned. The entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic In Service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE release does not support the Service state, this field shows *N/A*.
Equipment State	Displays the equipment state of the card.
Alarm Profile	Sets the alarm profile for the port. Check the **Suppress Alarms** check box to suppress all alarms for this card and its port(s).

D.4.1.3 Line Tab

The Line tab allows you to view and update OC12 IR/STM4 SH 1310 line performance monitoring information.

Table D-84   Field Descriptions for the Line Tab

Field	Description
Line Config	
Port Number	Displays the optical port number.
Port Name	Allows you to enter the name of the optical port.
SD BER	Sets the signal degrade bit error rate.
SF BER	Sets the signal fail bit error rate.
Type	Defines the port as SONET or SDH.

Table D-84   Field Descriptions for the Line Tab (continued)

Field	Description
PJSTSMon#	Sets the STS that will be used for pointer justification. If set to 0, no STS is monitored. Only one STS can be monitored on each OC-N port. • 0 (Cisco default)–3 (OC-3, per port) • 0 (Cisco default)–12 (OC-12) • 0 (Cisco default)–48 (OC-48)
ProvidesSync	If checked, the card is provisioned as an NE timing reference.
EnableSyncMsg	Enables synchronization status messages (S1 byte), which allow the node to choose the best timing source.
Admin SSM	If the node does not receive an SSM signal, it defaults to STU (synchronization traceability unknown). Admin SSM allows you to override the STU value with one of the following: • PRS—Primary reference source (Stratum 1) • STS2—Stratum 2 • TNC—Transit node clock • STS3E—Stratum 3E • STS3—Stratum 3 • SMC—SONET minimum clock • ST4—Stratum 4
Send DoNotUse	When checked, sends a do not use (DUS) message on the S1 byte.
Admin State	Select the designation that drives whether an entity is in service or out of service. The Admin state is the driver for the Service state.

Table D-84   Field Descriptions for the Line Tab (continued)

Field	Description
Service State	Displays the service state: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped; there is nothing in the slot. • UAS—Unassigned; the entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic in service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE does not support the Service State, this field shows N/A.
AINS Soak	Automatic in-service soak. The determination of duration left before the traffic/termination transitions to IS state.
AINS Soak Count Down	Automatic in-service soak countdown. Displays the remaining time of valid input signal in *hh:mm*, after which the card becomes in service (IS) automatically.
Line Threshold 15 Minutes	
Near End	
Port Number	The optical port number
ES-L	Errored seconds–line
SES-L	Severely errored seconds–line
CV-L	Coding violations–line
UAS-L	Unavailable seconds–line
FC-L	Failure count–line
PSC	Protection switching count
PSD	Protection switching duration
PSC-W	Protection switching count–working
PSD-W	Protection switching duration–working
Far End	

Table D-84   Field Descriptions for the Line Tab (continued)

Field	Description
Port Number	The optical port number
ES-L	Errored seconds–line
SES-L	Severely errored seconds–line
CV-L	Coding violations–line
UAS-L	Unavailable seconds–line
FC-L	Failure count–line
Line Threshold 1 Day	
Near End	
Port Number	The optical port number
ES-L	Errored seconds–line
SES-L	Severely errored seconds–line
CV-L	Coding violations–line
UAS-L	Unavailable seconds–line
FC-L	Failure count–line
PSC	Protection switching count
PSD	Protection switching duration
PSC-W	Protection switching count–working
PSD-W	Protection switching duration–working
Far End	
Port Number	The optical port number
ES-L	Errored seconds–line
SES-L	Severely errored seconds–line
CV-L	Coding violations–line
UAS-L	Unavailable seconds–line
FC-L	Failure count–line
Section Threshold 15 Minutes	
Port Number	The optical port number
CV-S	Coding violations–section
ES-S	Errored seconds–section
SES-S	Severely errored seconds–section
SEFS-S	Severely errored framing seconds–section
Section Threshold 1 Day	
Port Number	The optical port number
CV-S	Coding violations–section
ES-S	Errored seconds–section

■ Optical Cards

Table D-84   Field Descriptions for the Line Tab (continued)

Field	Description
SES-S	Severely errored seconds–section
SEFS-S	Severely errored framing seconds–section

D.4.1.4 STS Tab

The STS tab allows you to view and update OC12 IR/STM4 SH 1310 synchronous transport signal (STS) information.

Table D-85   Field Descriptions for the STS Tab

Field	Description
STS Config	
Displays the STS number, the intermediate path protection monitoring (IPPM) status, and XC loopback status.	
Path Threshold 15 Minutes	
STS Number	The synchronous transport signal number
CV-P	Coding violations–path
ES-P	Errored seconds–path
SES-P	Severely errored seconds–path
UAS-P	Unavailable seconds–path
FC-P	Failure count–path
PPJC-Pdet	Positive pointer justification count, STS path detected
NPJC-Pdet	Negative pointer justification count, STS path detected
PPJC-Pgen	Positive pointer justification count, STS path generated
NPJC-Pgen	Negative pointer justification count, STS path generated
PJCS-Pdet	Positive pointer justification count, STS path detected
PJCS-Pgen	Positive pointer justification count, STS path generated
PJC-Diff	The sum of the absolute values of differences between positive transmitted and received, and negative transmitted and received. The important metric on pointer justification is not the exact counts, but how many were absorbed.
Path Threshold 1 Day	
STS Number	The synchronous transport signal number
CV-P	Coding violations–path
ES-P	Errored seconds–path
SES-P	Severely errored seconds–path
UAS-P	Unavailable seconds–path
FC-P	Failure count–path
PPJC-Pdet	Positive pointer justification count, STS path detected
NPJC-Pdet	Negative pointer justification count, STS path detected
PPJC-Pgen	Positive pointer justification count, STS path generated

Table D-85   Field Descriptions for the STS Tab (continued)

Field	Description
NPJC-Pgen	Negative pointer justification count, STS path generated
PJCS-Pdet	Positive pointer justification count, STS path detected
PJCS-Pgen	Positive pointer justification count, STS path generated
PJC-Diff	The sum of the absolute values of differences between positive transmitted and received, and negative transmitted and received. The important metric on pointer justification is not the exact counts, but how many were absorbed.
Customer Info	
STS Number	The STS number
Customer ID	The user-defined customer ID number
Service ID	The user-defined service ID number

D.4.1.5 Loopback Tab

The Loopback tab allows you to view and update OC12 IR/STM4 SH 1310 loopback information.

Table D-86   Field Descriptions for the Loopback Tab

Field	Description
Port Number	Displays the port number.
Admin State	Displays the status of the line. The line can be In Service (IS), In Service–Auto In Service Soak (IS_AINS), Out of Service (OOS), or Out of Service–Maintenance (OOS_MT).

Table D-86   Field Descriptions for the Loopback Tab (continued)

Field	Description
Loopback Type	Allows you to configure a port to terminal loopback (Inward) or Facility (Line), or clear the current loopback (None). **Note** The line state must be OOS_MT before you can configure the loopback type.
Service State	Overall availability of the entity. Values are: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped. There is nothing in the slot. • UAS—Unassigned. The entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic In Service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE release does not support the Service state, this field shows *N/A*.

D.4.1.6 Protection Tab

The Protection tab allows you to view and update OC12 IR/STM4 SH 1310 protection group information.

Table D-87   Field Descriptions for the Protection Tab

Field	Description
Protection Groups	Displays a list of available protection groups.
Protection Group Details	Displays details about the selected protection group.

D.4.1.7 Alarm Behavior Tab

The Alarm Behavior tab allows you to view and update OC12 IR/STM4 SH 1310 alarm profile information.

Table D-88   Field Descriptions for the Alarm Behavior Tab

Field	Description
Alarm Profile	Displays the alarm profile that has been configured for the card.
Suppress Alarms	If checked, indicates that all alarms are suppressed for the card.
Port Number	Displays the card port number.
Alarm Profile	Choose an alarm profile for the port from the drop-down list. Values are Default, Inherited, or a customized alarm profile.
Suppress Alarms	If checked, all alarms are suppressed for the port.
Alarm Profile	Choose an alarm profile for all ports.
Force to All Ports	When clicked, forces all the ports to the selected alarm profile.

D.4.1.8 Info Tab

The Info tab allows you to view nominal operating values set during manufacturing for the OC12 IR/STM4 SH 1310 module.

Table D-89   Field Descriptions for the Info Tab

Field	Description
Extended Manufacturing Information	
Attribute	Displays the nominal card specification.
Value	Displays the value of the attribute.

> **Note**   See for descriptions of actions that can be performed using the buttons at the bottom of the window.

D.4.2 Slot Properties—OC12-4 IR/STM4 SH 1310

The Slot Properties pane displays information about the Cisco ONS 15327 or ONS 15454 slot that is selected in the NE Explorer tree. Use this properties pane to change the module's performance monitoring thresholds.

The Optical Connector (OC12-4 IR/STM4 SH 1310) card provides one intermediate or short range SONET/SDH OC-12 port compliant with the International Telecommunication Union's G.707, G.957, and Telcordia's GR-253. The port operates at 622.08 Mbps over a single-mode fiber span. The card supports VT and nonconcatenated or concatenated payloads at STS-1, STS-3c, STS-6c, or STS-12c signal levels.

For the OC12-4 IR/STM4 SH 1310 module, the Slot Properties pane displays the following tabs: Module View, Identification, Line, STS, Loopback, Protection, Alarm Behavior, J1 Path Trace, and Info.

D.4.2.1 Module View Tab

The Module View tab displays a graphic of the OC12-4 IR/STM4 SH 1310 that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Alarms also display when you move the mouse pointer over the graphic.) The Suppress Alarms check box is read-only and indicates whether all alarms are suppressed for the card and its port(s). Right-clicking the graphic opens a shortcut menu that you can use to reset, delete, or change the card.

D.4.2.2 Identification Tab

The Identification tab is where you view and update OC12-4 IR/STM4 SH 1310 identification information.

Table D-90   Field Descriptions for the Identification Tab

Field	Description
Equipment Type	Displays the equipment type the slot is provisioned for.
Actual Equipment Type	Displays the actual card that is installed in the slot.
Hardware Part Number	Displays the card part number. This number is printed on the top of the card.
Hardware Revision	Displays the hardware revision number of the card.
Serial Number	Displays the card serial number. This number is unique to each card.
CLEI Code	Displays the CLEI code.
Firmware Version	Displays the revision number of the software used by the ASIC chip installed on the card.
Product ID	Displays a product ID string of 63 characters maximum. If the card does not support the product ID, the field shows N/A.
Version ID	Displays a version ID string in the format "V99_." The version ID always begins with a V and ends with a space. If the card does not support the version ID, the field shows N/A.
Administration State	The port administration state. It can be: • IS—In Service. • IS, AINS—Automatic In Service. • OOS, DSBLD—Out of Service, Disabled. • OOS, MT—Out of Service, Maintenance.

Table D-90   Field Descriptions for the Identification Tab (continued)

Field	Description
Service State	Overall availability of the entity. Values are: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped. There is nothing in the slot. • UAS—Unassigned. The entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic In Service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE release does not support the Service state, this field shows *N/A*.
Equipment State	Displays the equipment state of the card.
Alarm Profile	Sets the alarm profile for the port. Check the **Suppress Alarms** check box to suppress all alarms for this card and its port(s).

D.4.2.3 Line Tab

The Line tab is where you view and update OC12-4 IR/STM4 SH 1310 optical line performance monitoring information.

Table D-91   Field Descriptions for the Line Tab

Field	Description
Line Config	
Port Number	Displays the optical port number.
Port Name	Displays the port name.
SD BER	Sets the signal degrade bit error rate.
SF BER	Sets the signal fail bit error rate.
Type	Defines the port as SONET or SDH.

Table D-91   Field Descriptions for the Line Tab (continued)

PJSTSMon#	Sets the STS that will be used for pointer justification. If set to 0, no STS is monitored. Only one STS can be monitored on each OC-N port. • 0 (Cisco default) - 3 (OC3, per port) • 0 (Cisco default) - 12 (OC-12) • 0 (Cisco default) - 48 (OC-48)
ProvidesSync	If checked, the card is provisioned as an NE timing reference.
EnableSyncMsg	Enables synchronization status messages (S1 byte), which allow the node to choose the best timing source.
Send DoNotUse	When checked, sends a do not use (DUS) message on the S1 byte.
Admin State	The port administration state. Choosing an administrative state from the drop-down list and clicking Apply changes the port's service state unless network conditions prevent the change. Admin states include: • IS—In Service. The port service state changes to IS_NR. • OOS,DSBLD—Out of Service, Disabled. The port service state changes to OOS_MA, DSBLD. • OOS, MT—Out of Service, Maintenance. The port service state changes to OOS_MA, MT. For loopbacks, the OOS, MT admin state must be initiated. • IS, AINS—Automatic In Service. The port service state changes to OOS_AU, AINS.
AINS Soak	Automatic in-service soak. The determination of duration left before the traffic/termination transitions to IS state.
AINS Soak Count Down	Automatic in-service soak countdown. Displays the remaining time of valid input signal in *hh:mm*, after which the card becomes in service (IS) automatically.

Table D-91   Field Descriptions for the Line Tab (continued)

Service State	Overall availability of the entity. Values are: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped. There is nothing in the slot. • UAS—Unassigned. The entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic In Service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE release does not support the Service state, this field shows *N/A*.
Admin SSM	If the node does not receive an SSM signal, it defaults to STU (synchronization traceability unknown). Admin SSM allows you to override the STU value with one of the following: • PRS—Primary reference source (Stratum 1) • STS2—Stratum 2 • TNC—Transit node clock • STS3E—Stratum 3E • STS3—Stratum 3 • SMC—SONET minimum clock • ST4—Stratum 4
Send <<FF> DoNotUse	When checked, sends a do not use (DUS) message on the S1 byte.
Line Threshold 15 Minutes	
Near End	
Port Number	The optical port number
ES-L	Errored seconds–line
SES-L	Severely errored seconds–line
CV-L	Coding violations–line
UAS-L	Unavailable seconds–line

Table D-91   Field Descriptions for the Line Tab (continued)

FC-L	Failure count–line
PSC	Protection switching count
PSD	Protection switching duration
PSC-W	Protection switching count–working
PSD-W	Protection switching duration–working
PSC-S	Protection switching count–span
PSD-S	Protection switching duration–span
Far End	
Port Number	The optical port number
ES-L	Errored seconds–line
SES-L	Severely errored seconds–line
CV-L	Coding violations–line
UAS-L	Unavailable seconds–line
FC-L	Failure count–line
Line Threshold 1 Day	
Near End	
Port Number	The optical port number
ES-L	Errored seconds–line
SES-L	Severely errored seconds–line
CV-L	Coding violations–line
UAS-L	Unavailable seconds–line
FC-L	Failure count–line
PSC	Protection switching count
PSD	Protection switching duration
PSC-W	Protection switching count–working
PSD-W	Protection switching duration–working
PSC-S	Protection switching count–span
PSD-S	Protection switching duration–span
Far End	
Port Number	The optical port number
ES-L	Errored seconds–line
SES-L	Severely errored seconds–line
CV-L	Coding violations–line
UAS-L	Unavailable seconds–line
FC-L	Failure count–line
Section Threshold 15 Minutes	
Port Number	Displays the optical port number.

Table D-91   Field Descriptions for the Line Tab (continued)

CV-S	Coding violations
ES-S	Errored seconds
SES-S	Severely errored seconds
SEFS-S	Severely errored framing seconds
Section Threshold 1 Day	
Port Number	Displays the optical port number.
CV-S	Coding violations
ES-S	Errored seconds
SES-S	Severely errored seconds
SEFS-S	Severely errored framing seconds

D.4.2.4 STS Tab

The STS tab is where you view and update OC12-4 IR/STM4 SH 1310 STS information.

Table D-92   Field Descriptions for the STS Tab

Field	Description
STS Config	
Displays the STS number, the intermediate path protection monitoring (IPPM) status, and XC loopback status.	
Path Threshold 15 Minutes	
STS Number	The synchronous transport signal number
CV-P	Coding violations–path
ES-P	Errored seconds–path
SES-P	Severely errored seconds–path
UAS-P	Unavailable seconds–path
FC-P	Failure count–path
PPJC-Pdet	Positive pointer justification count, STS path detected
NPJC-Pdet	Negative pointer justification count, STS path detected
PPJC-Pgen	Positive pointer justification count, STS path generated
NPJC-Pgen	Negative pointer justification count, STS path generated
PJCS-Pdet	Positive pointer justification count, STS path detected
PJCS-Pgen	Positive pointer justification count, STS path generated
PJC-Diff	The sum of the absolute values of differences between positive transmitted and received, and negative transmitted and received. The important metric on pointer justification is not the exact counts, but how many were absorbed.
Path Threshold 1 Day	
STS Number	The synchronous transport signal number
CV-P	Coding violations–path
ES-P	Errored seconds–path

Table D-92   Field Descriptions for the STS Tab (continued)

Field	Description
SES-P	Severely errored seconds–path
UAS-P	Unavailable seconds–path
FC-P	Failure count–path
PPJC-Pdet	Positive pointer justification count, STS path detected
NPJC-Pdet	Negative pointer justification count, STS path detected
PPJC-Pgen	Positive pointer justification count, STS path generated
NPJC-Pgen	Negative pointer justification count, STS path generated
PJCS-Pdet	Positive pointer justification count, STS path detected
PJCS-Pgen	Positive pointer justification count, STS path generated
PJC-Diff	The sum of the absolute values of differences between positive transmitted and received, and negative transmitted and received. The important metric on pointer justification is not the exact counts, but how many were absorbed.
Customer Info	
STS Number	The STS number
Customer ID	The user-defined customer ID number
Service ID	The user-defined service ID number

D.4.2.5 Loopback Tab

The Loopback tab is where you view and update OC12-4 IR/STM4 SH 1310 loopback information.

Table D-93   Field Descriptions for the Loopback Tab

Field	Description
Port Number	Displays the port number.
Admin State	Displays the status of the line. The line can be In Service (IS), In Service–Auto In Service Soak (IS_AINS), Out of Service (OOS), or Out of Service–Maintenance (OOS_MT).

Table D-93   Field Descriptions for the Loopback Tab (continued)

Field	Description
Loopback Type	Allows you to configure a port to terminal loopback (Inward) or Facility (Line), or clear the current loopback (None). **Note** The line state must be OOS_MT before you can configure the loopback type.
Service State	Overall availability of the entity. Values are: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped. There is nothing in the slot. • UAS—Unassigned. The entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic In Service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE release does not support the Service state, this field shows *N/A*.

D.4.2.6 Protection Tab

The Protection tab is where you view and update OC12-4 IR/STM4 SH 1310 protection group information.

Table D-94   Field Descriptions for the Protection Tab

Field	Description
Protection Groups	Displays a list of available protection groups.
Protection Group Details	Displays details about the selected protection group.

D.4.2.7 Alarm Behavior Tab

The Alarm Behavior tab is where you view and update OC12-4 IR/STM4 SH 1310 alarm profile information.

■ Optical Cards

Table D-95   Field Descriptions for the Alarm Behavior Tab

Field	Description
Alarm Profile	Displays the alarm profile that has been configured for the card.
Suppress Alarms	If checked, indicates that all alarms are suppressed for the card.
Port Number	Displays the card port number.
Alarm Profile	Choose an alarm profile for the port from the drop-down list. Values are Default, Inherited, or a customized alarm profile.
Suppress Alarms	If checked, all alarms are suppressed for the port.
Alarm Profile	Choose an alarm profile for all ports.
Force to All Ports	When clicked, forces all the ports to the selected alarm profile.

D.4.2.8 J1 Path Trace Tab

The J1 Path Trace tab allows you to view and update OC12-4 IR/STM4 SH 1310 J1 Path Trace information.

Note   This tab is not available on ONS 15327 OC12-4 IR/STM4 SH 1310 cards.

Table D-96   Field Descriptions for the J1 Path Trace Tab

Field	Description
Port Number	Displays the port number.
STS Number	Displays the STS number.
Expected String	Displays the current expected string.
Received String	Displays the current received string.
Mode	Displays the path trace mode (Off/None, Auto, or Manual).
C2	Represents a machine-generated J1/J2 payload label byte.
Mismatch	Indicates whether there is a mismatch in the C2 byte received.
Vcat Member Number	Displays the virtual concatenation (VCAT) member number.
Display	Click the **Display** button to view the circuit trace information. See 7.2.21.2 Viewing a J1 Path Trace from the NE Explorer, page 7-134 for more information.
Retrieve	Click the **Retrieve** button to retrieve J1 path trace information.

D.4.2.9 Info Tab

The Info tab allows you to view nominal operating values set during manufacturing for the OC12-4 IR/STM4 SH 1310 module.

Table D-97   Field Descriptions for the Info Tab

Field	Description
Extended Manufacturing Information	
Attribute	Displays the nominal card specification.
Value	Displays the value of the attribute.

> **Note**   See Table 1-20 on page 1-44 for descriptions of actions that can be performed using the buttons at the bottom of the window.

D.4.3 Slot Properties—OC192 LR/STM64 LH 1550

The Slot Properties pane displays information about the Cisco ONS 15454 SONET, ONS 15454 SDH, or ONS 15600 slot that is selected in the NE Explorer tree. Use this properties pane to change the module performance monitoring thresholds.

The OC192 LR/STM64 LH 1550 card provides one long-range SONET/SDH OC-192 port compliant with the International Telecommunication Union (ITU-T) G.707, ITU-T G.957, Telcordia GR-1377-CORE, and Telcordia GR-253-CORE. The card port operates at 9.96 Gbps over unamplified distances up to 80 km when using fiber such as C-SMF or dispersion compensated fiber limited by loss and/or dispersion. The card supports VT and nonconcatenated or concatenated payloads.

For the OC192 LR/STM64 LH 1550 module, the Slot Properties pane displays the following tabs: Module View, Identification, Line, STS, Loopback, Protection, Alarm Behavior, Auto Laser Shutdown, and J1 Path Trace.

D.4.3.1 Module View Tab

The Module View tab displays a graphic of the OC192 LR/STM64 LH 1550 that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Alarms are also displayed when you move the mouse pointer over the graphic.) The Suppress Alarms check box is read-only and indicates whether all alarms are suppressed for the card and its port(s). Right-clicking the graphic opens a shortcut menu that you can use to reset, delete, or change the card.

D.4.3.2 Identification Tab

The Identification tab allows you to view and update OC192 LR/STM64 LH 1550 identification information.

Table D-98   Field Descriptions for the Identification Tab

Field	Description
Equipment Type	Displays the equipment type the slot is provisioned for.
Actual Equipment Type	Displays the actual card that is installed in the slot.
Hardware Part Number	Displays the card part number that is printed on the top of the card.

■ **Optical Cards**

Table D-98   Field Descriptions for the Identification Tab (continued)

Field	Description
Hardware Revision	Displays the hardware revision number of the card.
Serial Number	Displays the card serial number that is unique to each card.
CLEI Code	Displays the CLEI code.
Firmware Version	Displays the revision number of the software used by the ASIC chip installed on the card.
User Code	Allows you to enter an ASCII string to identify the card. The user code is stored in nonvolatile memory so that it is not lost when the unit is moved or stored as a spare.
Product ID	Displays a product ID string of 63 characters maximum. If the card does not support the product ID, the field shows N/A.
Version ID	Displays a version ID string in the format "V99_." The version ID always begins with a V and ends with a space. If the card does not support the version ID, the field shows N/A.
Administration State	The port administration state. It can be: • IS—In Service. • IS, AINS—Automatic In Service. • OOS, DSBLD—Out of Service, Disabled. • OOS, MT—Out of Service, Maintenance.
Service State	Overall availability of the entity. Values are: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped. There is nothing in the slot. • UAS—Unassigned. The entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic In Service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE release does not support the Service state, this field shows *N/A*.

Table D-98   Field Descriptions for the Identification Tab (continued)

Field	Description
Equipment State	Displays the equipment state of the card.
Alarm Profile	Sets the alarm profile for the port. Check the **Suppress Alarms** check box to suppress all alarms for this card and its port(s).

D.4.3.3 Line Tab

The Line tab allows you to view and update OC192 LR/STM64 LH 1550 optical line performance monitoring information.

Table D-99   Field Descriptions for the Line Tab

Field	Description
Line Config	
Port Number	Displays the optical port number.
Port Name	Allows you to enter an optical port name.
SD BER	Sets the signal degrade bit error rate.
SF BER	Sets the signal fail bit error rate.
Type	Defines the port as SONET or SDH.
PJSTSMon#	Sets the STS that will be used for pointer justification. If set to 0, no STS is monitored. Only one STS can be monitored on each OC-N port. • 0 (Cisco default)–3 (OC-3, per port) • 0 (Cisco default)–12 (OC-12) • 0 (Cisco default)–48 (OC-48)
ProvidesSync	If checked, the card is provisioned as an NE timing reference.
EnableSyncMsg	Enables synchronization status messages (S1 byte), which allow the node to choose the best timing source.
Admin SSM	If the node does not receive an SSM signal, it defaults to STU (synchronization traceability unknown). Admin SSM allows you to override the STU value with one of the following: • PRS—Primary reference source (Stratum 1) • STS2—Stratum 2 • TNC—Transit node clock • STS3E—Stratum 3E • STS3—Stratum 3 • SMC—SONET minimum clock • ST4—Stratum 4
Send DoNotUse	When checked, sends a do not use (DUS) message on the S1 byte.
Admin State	Select the designation that drives whether an entity is in service or out of service. The Admin state is the driver for the Service state.

Table D-99   Field Descriptions for the Line Tab (continued)

Field	Description
Service State	Displays the service state: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped; there is nothing in the slot. • UAS—Unassigned; the entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic in service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE does not support the Service State, this field shows N/A.
AINS Soak	Automatic in-service soak. The determination of duration left before the traffic/termination transitions to IS state.
AINS Soak Count Down	Automatic in-service soak countdown. Displays the remaining time of valid input signal in *hh:mm*, after which the card becomes in service (IS) automatically.
ALS Mode	Displays the ALS mode (Disabled, Auto Restart, Manual Restart, or Manual Restart for Test).
Line Threshold 15 Minutes	
Port Number	The optical port number
ES-L	Errored seconds–line
SES-L	Severely errored seconds–line
CV-L	Coding violations–line
UAS-L	Unavailable seconds–line
FC-L	Failure count–line
PSC	Protection switching count—Near-end only
PSD	Protection switching duration—Near-end only
PSC-W	Protection switching count—working
PSD-W	Protection switching duration—working
PSC-S	Protection switching count—span

Table D-99   Field Descriptions for the Line Tab (continued)

Field	Description
PSD-S	Protection switching duration—span
PSC-R	Protection switching count—ring
PSD-R	Protection switching duration—ring
Line Threshold 1 Day	
Port Number	The optical port number
ES-L	Errored seconds–line
SES-L	Severely errored seconds–line
CV-L	Coding violations–line
UAS-L	Unavailable seconds–line
FC-L	Failure count–line
PSC	Protection switching count—Near-end only
PSD	Protection switching duration—Near-end only
PSC-W	Protection switching count—working
PSD-W	Protection switching duration—working
PSC-S	Protection switching count—span
PSD-S	Protection switching duration—span
PSC-R	Protection switching count—ring
PSD-R	Protection switching duration—ring
Section Threshold 15 Minutes	
Port Number	The optical port number
CV-S	Coding violations–section
ES-S	Errored seconds–section
SES-S	Severely errored seconds–section
SEFS-S	Severely errored framing seconds–section
Section Threshold 1 Day	
Port Number	The optical port number
CV-S	Coding violations–section
ES-S	Errored seconds–section
SES-S	Severely errored seconds–section
SEFS-S	Severely errored framing seconds–section

D.4.3.4 STS Tab

The STS tab allows you to view and update OC192 LR/STM64 LH 1550 STS information.

Table D-100   Field Descriptions for the STS Tab

Field	Description
STS Config	
Displays the STS number, the intermediate path protection monitoring (IPPM) status, and XC loopback status.	
Path Threshold 15 Minutes	
STS Number	The synchronous transport signal number
CV-P	Coding violations–path
ES-P	Errored seconds–path
SES-P	Severely errored seconds–path
UAS-P	Unavailable seconds–path
FC-P	Failure count–path
PPJC-Pdet	Positive pointer justification count, STS path detected
NPJC-Pdet	Negative pointer justification count, STS path detected
PPJC-Pgen	Positive pointer justification count, STS path generated
NPJC-Pgen	Negative pointer justification count, STS path generated
PJCS-Pdet	Positive pointer justification count, STS path detected
PJCS-Pgen	Positive pointer justification count, STS path generated
PJC-Diff	The sum of the absolute values of differences between positive transmitted and received, and negative transmitted and received. The important metric on pointer justification is not the exact counts, but how many were absorbed.
Path Threshold 1 Day	
STS Number	The synchronous transport signal number
CV-P	Coding violations–path
ES-P	Errored seconds–path
SES-P	Severely errored seconds–path
UAS-P	Unavailable seconds–path
FC-P	Failure count–path
PPJC-Pdet	Positive pointer justification count, STS path detected
NPJC-Pdet	Negative pointer justification count, STS path detected
PPJC-Pgen	Positive pointer justification count, STS path generated
NPJC-Pgen	Negative pointer justification count, STS path generated
PJCS-Pdet	Positive pointer justification count, STS path detected
PJCS-Pgen	Positive pointer justification count, STS path generated
PJC-Diff	The sum of the absolute values of differences between positive transmitted and received, and negative transmitted and received. The important metric on pointer justification is not the exact counts, but how many were absorbed.
Customer Info	
STS Number	The STS number

Table D-100   Field Descriptions for the STS Tab (continued)

Field	Description
Customer ID	The user-defined customer ID number
Service ID	The user-defined service ID number

D.4.3.5 Loopback Tab

The Loopback tab allows you to view and update OC192 LR/STM64 LH 1550 loopback information.

Table D-101   Field Descriptions for the Loopback Tab

Field	Description
Port Number	Displays the port number.
State	Displays the status of the line. The line can be In Service (IS), In Service–Auto In Service Soak (IS_AINS), Out of Service (OOS), or Out of Service–Maintenance (OOS_MT).
Loopback Type	Allows you to configure a port to terminal loopback (Inward) or Facility (Line), or clear the current loopback (none). **Note** The line state must be OOS_MT before you can configure the loopback type.

D.4.3.6 Protection Tab

The Protection tab allows you to view and update OC192 LR/STM64 LH 1550 protection group information.

Table D-102   Field Descriptions for the Protection Tab

Field	Description
Protection Groups	Displays a list of available protection groups.
Protection Group Details	Displays details about the selected protection group.

D.4.3.7 Alarm Behavior Tab

The Alarm Behavior tab allows you to view and update OC192 LR/STM64 LH 1550 alarm profile information.

Table D-103   Field Descriptions for the Alarm Behavior Tab

Field	Description
Alarm Profile	Displays the alarm profile that has been configured for the card.
Suppress Alarms	If checked, indicates that all alarms are suppressed for the card.
Port Number	Displays the card port number.
Alarm Profile	Choose an alarm profile for the port from the drop-down list. Values are Default, Inherited, or a customized alarm profile.
Suppress Alarms	If checked, all alarms are suppressed for the port.

Table D-103   Field Descriptions for the Alarm Behavior Tab (continued)

Field	Description
Alarm Profile	Choose an alarm profile for all ports.
Force to All Ports	When clicked, forces all the ports to the selected alarm profile.

D.4.3.8 Auto Laser Shutdown Tab

The Auto Laser Shutdown tab allows you to view and update OC192 LR/STM64 LH 1550 ALS parameters.

Table D-104   Field Descriptions for the Auto Laser Shutdown Tab

Field	Description
Port No.	Displays the port number.
ALS Mode	Displays the ALS mode (Disabled, Auto Restart, Manual Restart, or Manual Restart for Test).
Rec. Pulse Dur. (sec)	Allows you to set the received laser pulse duration, in seconds. The range is 2.0 to 100.0 seconds.
Rec. Pulse Int. (sec)	Allows you to set the received laser pulse interval, in seconds. The range is 60 to 300 seconds.
Status	Displays the current laser status. Values are Shutdown or Not Shutdown.
Request Restart	If selected, it allows you to request a laser restart. This parameter is configurable only when the ALS mode is set to Manual Restart or Manual Restart for Test and when the laser status is Shut Down.

D.4.3.9 J1 Path Trace Tab

The J1 Path Trace tab allows you to view and update OC192 LR/STM64 LH 1550 J1 path trace information.

Table D-105   Field Descriptions for the J1 Path Trace Tab

Field	Description
Port Number	Displays the port number.
STS Number	Displays the STS number.
Expected String	Displays the current expected string.
Received String	Displays the current received string.
Mode	Displays the path trace mode (Off/None, Auto, or Manual).
C2	Represents a machine-generated J1/J2 payload label byte.
Mismatch	Indicates whether there is a mismatch in the C2 byte received.
Vcat Member Number	Displays the virtual concatenation (VCAT) member number.
Display	Click the **Display** button to view the circuit trace information. See 7.2.21.2 Viewing a J1 Path Trace from the NE Explorer, page 7-134 for more information.
Retrieve	Click the **Retrieve** button to retrieve J1 path trace information.

✎

Note   See Table 1-20 on page 1-44 for descriptions of actions that can be performed using the buttons at the bottom of the window.

D.4.4 Slot Properties—OC192/STM64 XFR-Based

The Slot Properties pane displays information about the Cisco ONS 15454 SONET and ONS 15454 SDH slot that is selected in the NE Explorer tree. Use this properties pane to change the module performance monitoring thresholds.

The OC-192/STM64 XFR-based card is an OC-192/STM-64 card based on XFP optics for use in ONS 15454 SONET or ONS 15454 SDH shelves. It is a one-base OC-192/STM-64 board that can be used with SR, IR, or LR XFP optics modules.

For the OC192/STM64 XFR-based module, the Slot Properties pane displays the following tabs: Module View, Identification, Pluggable Provisioning, Line, VC-4, STS, Loopback, Protection, Alarm Behavior, Transceiver, Auto Laser Shutdown, Section Trace, J1 Path Trace, and Info.

D.4.4.1 Module View Tab

The Module View tab displays a graphic of the OC192/STM64 XFR-based card that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Alarms are also displayed when you move the mouse pointer over the graphic.) The Suppress Alarms check box is read-only and indicates whether all alarms are suppressed for the card and its port(s). Right-clicking the graphic opens a shortcut menu that you can use to reset, delete, or change the card.

D.4.4.2 Identification Tab

The Identification tab allows you to view and update OC192/STM64 XFR-based card identification information.

Table D-106   Field Descriptions for the Identification Tab

Field	Description
Equipment Type	Displays the equipment type that the slot is provisioned for.
Actual Equipment Type	Displays the actual card that is installed in the slot.
Hardware Part Number	Displays the card part number that is printed on the top of the card.
Hardware Revision	Displays the hardware revision number.
Serial Number	Displays the card serial number that is unique to each card.
CLEI Code	Displays the CLEI code.
Firmware Version	Displays the revision number of the software used by the ASIC chip installed on the card.
Product ID	Displays a product ID string of 63 characters maximum. If the card does not support the product ID, the field shows N/A.
Version ID	Displays a version ID string in the format "V99_." The version ID always begins with a V and ends with a space. If the card does not support the version ID, the field shows N/A.

Table D-106   Field Descriptions for the Identification Tab (continued)

Field	Description
Administration State	The port administration state. It can be: • IS—In Service. • IS, AINS—Automatic In Service. • OOS, DSBLD—Out of Service, Disabled. • OOS, MT—Out of Service, Maintenance.
Service State	Overall availability of the entity. Values are: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped. There is nothing in the slot. • UAS—Unassigned. The entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic In Service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE release does not support the Service state, this field shows *N/A*.
Equipment State	Displays the equipment state of the card.
Alarm Profile	Sets the alarm profile for the port. Check the **Suppress Alarms** check box to suppress all alarms for this card and its port(s).

D.4.4.3 Pluggable Provisioning Tab

The Pluggable Provisioning tab allows you to view and provision pluggable entities; for example, the pluggable port module (PPM) and the ports inside these entities.

Table D-107   Field Descriptions for the Pluggable Provisioning Tab

Field	Description
Pluggable Number	Displays the identifier of the plugin module.
Actual Equipment Type	Displays the actual card that is installed in the slot.

Table D-107   Field Descriptions for the Pluggable Provisioning Tab (continued)

Field	Description
Admin State	Select the designation that drives whether an entity is in service or out of service. The Admin state is the driver for the Service state.
Service State	Overall availability of the entity. Values are: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped. There is nothing in the slot. • UAS—Unassigned. The entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic In Service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE release does not support the Service state, this field shows *N/A*.
Equipment State	Displays the equipment state of the card.
Pluggable Number	Displays the identifier of the plugin module and the port number.
Rate	Displays the rate of the port inside the pluggable entity.

D.4.4.3.1 Provision Pluggable Dialog Box

Click the **Create** button to launch the Provision Pluggable dialog box. The Provision Pluggable dialog box allows you to provision pluggable entities; for example, the PPM and PIM, and to create the ports inside these entities.

D.4.4.4 Line (ONS 15454 SONET) Tab

The Line tab allows you to view and update OC192/STM64 XFR-based card optical line performance monitoring information.

Table D-108   Field Descriptions for the Line Tab

Field	Description
Line Config	
Port Number	Displays the optical port number.
Port Name	Allows you to enter the name of the optical port.
Admin State	Displays the status of the line. The line can be In Service (IS), In Service–Auto In Service Soak (IS_AINS), Out of Service (OOS), or Out of Service–Maintenance (OOS_MT).
Service State	Overall availability of the entity. Values are: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped. There is nothing in the slot. • UAS—Unassigned. The entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic In Service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE release does not support the Service state, this field shows *N/A*.
SF BER	Sets the signal fail bit error rate.
SD BER	Sets the signal degrade bit error rate.
ProvidesSync	If checked, the card is provisioned as an NE timing reference.
EnableSyncMsg	Enables synchronization status messages (S1 byte), which allow the node to choose the best timing source.
Send DoNotUse	When checked, sends a do not use (DUS) message on the S1 byte.
BLSR Ext. Byte	Select an alternate BLSR byte. Choices are Z2, E2, or F1.
Type	Defines the port as SONET or SDH.
AINS Soak	Automatic in-service soak. The determination of duration left before the traffic/termination transitions to IS state.
AINS Soak Count Down	Automatic in-service soak countdown. Displays the remaining time of valid input signal in *hh:mm*, after which the card becomes in service (IS) automatically.

Table D-108   Field Descriptions for the Line Tab (continued)

Field	Description
Admin SSM	If the node does not receive an SSM signal, it defaults to STU (synchronization traceability unknown). Admin SSM allows you to override the STU value with one of the following: • PRS—Primary reference source (Stratum 1) • STS2—Stratum 2 • TNC—Transit node clock • STS3E—Stratum 3E • STS3—Stratum 3 • SMC—SONET minimum clock • ST4—Stratum 4
Send <FF> DoNotUse	When checked, sends a special do not use (DUS) (0xff) message on the S1 byte.
PJSTSMon#	Sets the STS that will be used for pointer justification. If set to 0, no STS is monitored. Only one STS can be monitored on each OC-N port. • 0 (Cisco default)–3 (OC3, per port) • 0 (Cisco default)–12 (OC-12) • 0 (Cisco default)–48 (OC-48)

Table D-108   Field Descriptions for the Line Tab (continued)

Field	Description
Reach	Allows you to provision the reach value. You can choose Auto Provision, which allows the system to automatically provision the reach from the PPM reach value on the hardware. Choose one of the following reach distances:
	Note The reach distances options that appear in the drop-down list depend on the card selected.
	• SR (short reach, up to 2km distance)
	• SR 1 (up to 2km distance)
	• IR 1 (intermediate reach, up to 15km distance)
	• IR 2 (up to 40kmm distance)
	• LR 1 (long reach, up to 40km distance)
	• LR 2 (up to 80km distance)
	• LR 3 (up to 80km distance)
	• I1
	• S1
	• S2
	• L1
	• L2
	• L3
	• SX (up to 550m or 270m distance based on 50um/62.5um diameter fiber)
	• LX (up to 10km or 550m distance based on 50um/62.5um diameter fiber)
	• CX
	• T
	• DX (up to 40km distance)
	• HX (up to 40km distance)
	• ZX (up to 80km distance)
	• VX (up to 100km distance)
Wavelength	Allows you to provision the wavelength frequency.
Line Thresh 15 Minutes	
Near End	
Port Number	The optical port number
ES-L	Errored seconds–line
SES-L	Severely errored seconds–line
CV-L	Coding violations–line
UAS-L	Unavailable seconds–line
FC-L	Failure count–line
PSC	Protection switching count—Near-end only
PSD	Protection switching duration—Near-end only

Table D-108   Field Descriptions for the Line Tab (continued)

Field	Description
PSC-W	Protection switching count–working
PSD-W	Protection switching duration–working
PSC-S	Protection switching count–span
PSD-S	Protection switching duration–span
PSC-R	Protection switching count–ring
PSD-R	Protection switching duration–ring
Far End	
Port Number	The optical port number
ES-L	Errored seconds–line
SES-L	Severely errored seconds–line
CV-L	Coding violations–line
UAS-L	Unavailable seconds–line
FC-L	Failure count–line
Line Thresh 1 Day	
Near End	
Port Number	The optical port number
ES-L	Errored seconds–line
SES-L	Severely errored seconds–line
CV-L	Coding violations–line
UAS-L	Unavailable seconds–line
FC-L	Failure count–line
PSC	Protection switching count—Near-end only
PSD	Protection switching duration—Near-end only
PSC-W	Protection switching count–working
PSD-W	Protection switching duration–working
PSC-S	Protection switching count–span
PSD-S	Protection switching duration–span
PSC-R	Protection switching count–ring
PSD-R	Protection switching duration–ring
Far End	
Port Number	The optical port number
ES-L	Errored seconds–line
SES-L	Severely errored seconds–line
CV-L	Coding violations–line
UAS-L	Unavailable seconds–line
FC-L	Failure count–line

Table D-108   Field Descriptions for the Line Tab (continued)

Field	Description
Physical Thresh 15 Minutes	
Port No.	Port number.
LBC-HIGH	Laser bias current maximum. Cisco default is (15 min): 150 percent.
LBC-LOW	Laser bias current minimum. Cisco default is (15 min): 50 percent.
OPT-HIGH	Optical power transmitted maximum. Cisco default is (15 min): 120 percent.
OPT-LOW	Optical power transmitted minimum. Cisco default is (15 min): 80 percent.
OPR-HIGH	Optical power received maximum. Cisco default is (15 min): 200 percent.
OPR-LOW	Optical power received minimum. Cisco default is (15 min): 50 percent.
Set OPR	Setting the optical power received (OPR) establishes the received power level as 100 percent. If the receiver power decreases, then the OPR percentage decreases to reflect the loss in receiver power. For example, if the receiver power decreases 3 dBm, the OPR decreases 50 percent.
Physical Thresh 1 Day	
Port No.	Port number.
LBC-HIGH	Laser bias current maximum. Cisco default is (15 min): 150 percent.
LBC-LOW	Laser bias current minimum. Cisco default is (15 min): 50 percent.
OPT-HIGH	Optical power transmitted maximum. Cisco default is (15 min): 120 percent.
OPT-LOW	Optical power transmitted minimum. Cisco default is (15 min): 80 percent.
OPR-HIGH	Optical power received maximum. Cisco default is (15 min): 200 percent.
OPR-LOW	Optical power received minimum. Cisco default is (15 min): 50 percent.
Set OPR	Setting the optical power received (OPR) establishes the received power level as 100 percent. If the receiver power decreases, then the OPR percentage decreases to reflect the loss in receiver power. For example, if the receiver power decreases 3 dBm, the OPR decreases 50 percent.
Section Thresh 15 Minutes	
Port Number	The optical port number.
CV-S	Coding violations–section.
ES-S	Errored seconds–section.
SES-S	Severely errored seconds–section.
SEFS-S	Severely errored framing seconds–section.
Section Thresh 1 Day	
Port Number	The optical port number.
CV-S	Coding violations–section.
ES-S	Errored seconds–section.
SES-S	Severely errored seconds–section.
SEFS-S	Severely errored framing seconds–section.
Alarm Thresholds	
Port No.	Port number.
LBC-HIGH	Laser bias current maximum.

Table D-108   Field Descriptions for the Line Tab (continued)

Field	Description
LBC-LOW	Laser bias current minimum.
OPT-HIGH	Optical power transmitted maximum.
OPT-LOW	Optical power transmitted minimum.
OPR-HIGH	Optical power received maximum.
OPR-LOW	Optical power received minimum.
Set OPR	Setting the optical power received (OPR) establishes the received power level as 100 percent. If the receiver power decreases, then the OPR percentage decreases to reflect the loss in receiver power. For example, if the receiver power decreases 3 dBm, the OPR decreases 50 percent.

D.4.4.5 Line (ONS 15454 SDH) Tab

The Line tab allows you to view and update OC192/STM64 XFR-based card optical line performance monitoring information.

Table D-109   Field Descriptions for the Line Tab

Field	Description
Line Config	
Port Number	Displays the optical port number.
Port Name	Allows you to enter the name of the optical port.
Admin State	Displays the status of the line. The line can be In Service (IS), In Service–Auto In Service Soak (IS_AINS), Out of Service (OOS), or Out of Service–Maintenance (OOS_MT).
Port Rate	Sets the rate of the new port.

Table D-109   Field Descriptions for the Line Tab (continued)

Field	Description
Service State	Overall availability of the entity. Values are: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped. There is nothing in the slot. • UAS—Unassigned. The entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic In Service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE release does not support the Service state, this field shows *N/A*.
SF BER	Sets the signal fail bit error rate.
SD BER	Sets the signal degrade bit error rate.
ProvidesSync	If checked, the card is provisioned as an NE timing reference.
EnableSyncMsg	Enables synchronization status messages (S1 byte), which allow the node to choose the best timing source.
Send DoNotUse	When checked, sends a do not use (DUS) message on the S1 byte.
MS-SPRing Ext. Byte	Select an alternate MS-SPRing byte.
Type	Defines the port as SONET or SDH.
AINS Soak	Automatic in-service soak. The determination of duration left before the traffic/termination transitions to IS state.
AINS Soak Count Down	Automatic in-service soak countdown. Displays the remaining time of valid input signal in *hh:mm*, after which the card becomes in service (IS) automatically.

Table D-109   Field Descriptions for the Line Tab (continued)

Field	Description
Admin SSM	If the node does not receive an SSM signal, it defaults to STU (synchronization traceability unknown). Admin SSM allows you to override the STU value with one of the following: • PRS—Primary reference source (Stratum 1) • STS2—Stratum 2 • TNC—Transit node clock • STS3E—Stratum 3E • STS3—Stratum 3 • SMC—SONET minimum clock • ST4—Stratum 4
Send <FF> DoNotUse	When checked, sends a special do not use (DUS) (0xff) message on the S1 byte.
PJ VC-4 Mon#	Sets the VC that will be used for pointer justification. If set to 0, no VC is monitored. Only one VC can be monitored on each STM port.

Table D-109   Field Descriptions for the Line Tab (continued)

Field	Description
Reach	Allows you to provision the reach value. You can choose to automatically provision the PPM reach value on the hardware (Auto Provision) or one of the following reach distances: **Note** The reach distances that appear in the drop-down list depend on the card selected. • SR (short reach, up to 2km distance) • SR 1 (up to 2km distance) • IR 1 (intermediate reach, up to 15km distance) • IR 2 (up to 40kmm distance) • LR 1 (long reach, up to 40km distance) • LR 2 (up to 80km distance) • LR 3 (up to 80km distance) • I1 • S1 • S2 • L1 • L2 • L3 • SX (up to 550m or 270m distance based on 50um/62.5um diameter fiber) • LX (up to 10km or 550m distance based on 50um/62.5um diameter fiber) • CX • T • DX (up to 40km distance) • HX (up to 40km distance) • ZX (up to 80km distance) • VX (up to 100km distance)
Wavelength	Allows you to provision the wavelength frequency.
MS Thresh 15 Minutes	
Near End	
Port Number	The port number
EB-MS	Errored block–multiplex section
BBE-MS	Background block errors–multiplex section
ES-MS	Errored seconds–multiplex section
SES-MS	Severely errored seconds–multiplex section
UAS-MS	Unavailable seconds–multiplex section
PSC	Protection switching counts
PSD	Protection switching duration
PSC-W	Protection switching count–working

Table D-109   Field Descriptions for the Line Tab (continued)

Field	Description
PSD-W	Protection switching duration–working
PSC-S	Protection switching count–span
PSD-S	Protection switching duration–span
PSC-R	Protection switching count–ring
PSD-R	Protection switching duration–ring
Far End	
Port Number	The port number
EB-MS	Errored block–multiplex section
BBE-MS	Background block errors–multiplex section
ES-MS	Errored seconds–multiplex section
SES-MS	Severely errored seconds–multiplex section
UAS-MS	Unavailable seconds–multiplex section
MS Thresh 1 Day	
Port Number	The port number
EB-MS	Errored block–multiplex section
BBE-MS	Background block errors–multiplex section
ES-MS	Errored seconds–multiplex section
SES-MS	Severely errored seconds–multiplex section
UAS-MS	Unavailable seconds–multiplex section
PSC	Protection switching counts
PSD	Protection switching duration
PSC-W	Protection switching count–working
PSD-W	Protection switching duration–working
PSC-S	Protection switching count–span
PSD-S	Protection switching duration–span
PSC-R	Protection switching count–ring
PSD-R	Protection switching duration–ring
Far End	
Port Number	The port number
EB-MS	Errored block–multiplex section
BBE-MS	Background block errors–multiplex section
ES-MS	Errored seconds–multiplex section
SES-MS	Severely errored seconds–multiplex section
UAS-MS	Unavailable seconds–multiplex section
Physical Thresh 15 Minutes	
Port No.	Port number.

Table D-109   Field Descriptions for the Line Tab (continued)

Field	Description
LBC-HIGH	Laser bias current maximum. Cisco default is (15 min): 150 percent.
LBC-LOW	Laser bias current minimum. Cisco default is (15 min): 50 percent.
OPT-HIGH	Optical power transmitted maximum. Cisco default is (15 min): 120 percent.
OPT-LOW	Optical power transmitted minimum. Cisco default is (15 min): 80 percent.
OPR-HIGH	Optical power received maximum. Cisco default is (15 min): 200 percent.
OPR-LOW	Optical power received minimum. Cisco default is (15 min): 50 percent.
Set OPR	Setting the optical power received (OPR) establishes the received power level as 100 percent. If the receiver power decreases, then the OPR percentage decreases to reflect the loss in receiver power. For example, if the receiver power decreases 3 dBm, the OPR decreases 50 percent.
Physical Thresh 1 Day	
Port No.	Port number.
LBC-HIGH	Laser bias current maximum. Cisco default is (15 min): 150 percent.
LBC-LOW	Laser bias current minimum. Cisco default is (15 min): 50 percent.
OPT-HIGH	Optical power transmitted maximum. Cisco default is (15 min): 120 percent.
OPT-LOW	Optical power transmitted minimum. Cisco default is (15 min): 80 percent.
OPR-HIGH	Optical power received maximum. Cisco default is (15 min): 200 percent.
OPR-LOW	Optical power received minimum. Cisco default is (15 min): 50 percent.
Set OPR	Setting the optical power received (OPR) establishes the received power level as 100 percent. If the receiver power decreases, then the OPR percentage decreases to reflect the loss in receiver power. For example, if the receiver power decreases 3 dBm, the OPR decreases 50 percent.
RS Thresh 15 Minutes	
Port Number	The port number
EB-RS	Errored block–regenerator section
BBE-RS	Background block errors–regenerator section
ES-RS	Errored seconds–regenerator section
SES-RS	Severely errored seconds–regenerator section
UAS-RS	Unavailable seconds–regenerator section
OFS-RS	Out of framing seconds–regenerator section
RS Thresh 1 Day	
Port Number	The port number
EB-RS	Errored block–regenerator section
BBE-RS	Background block errors–regenerator section
ES-RS	Errored seconds–regenerator section
SES-RS	Severely errored seconds–regenerator section
UAS-RS	Unavailable seconds–regenerator section
OFS-RS	Out of framing seconds–regenerator section
Alarm Thresholds	

Table D-109   Field Descriptions for the Line Tab (continued)

Field	Description
Port No.	Port number.
LBC-HIGH	Laser bias current maximum.
LBC-LOW	Laser bias current minimum.
OPT-HIGH	Optical power transmitted maximum.
OPT-LOW	Optical power transmitted minimum.
OPR-HIGH	Optical power received maximum.
OPR-LOW	Optical power received minimum.
Set OPR	Setting the optical power received (OPR) establishes the received power level as 100 percent. If the receiver power decreases, then the OPR percentage decreases to reflect the loss in receiver power. For example, if the receiver power decreases 3 dBm, the OPR decreases 50 percent.

D.4.4.6 VC-4 Tab (ONS 15454 SDH)

The VC-4 tab allows you to view and update OC192/STM64 XFR-based card VC-4 information.

Table D-110   Field Descriptions for the VC-4 Tab

Field	Description
VC-4 Config	
Displays the VC-4 number and the intermediate path protection monitoring (IPPM) status.	
Path Thresh 15 Min, Path Thresh 1 Day	
Port Number	The VC-4 port number.
EB-HP	Errored blocks–higher order path.
ES-HP	Errored seconds–higher order path.
SES-HP	Severely errored seconds–higher order path.
UAS-HP	Unavailable seconds–higher order path.
BBE-HP	Background block errors–higher order path.
PPJC-Pdet	Positive pointer justification count, STS path detected.
NPJC-Pdet	Negative pointer justification count, STS path detected.
PPJC-Pgen	Positive pointer justification count, STS path generated.
NPJC-Pgen	Negative pointer justification count, STS path generated.
PJCS-Pdet	Positive pointer justification count, STS path detected.
PJCS-Pgen	Positive pointer justification count, STS path generated.
PJC-Diff	The sum of the absolute values of differences between positive transmitted and received, and negative transmitted and received. The important metric on pointer justification is not the exact counts, but how many were absorbed.
Customer Info	
VC Number	The VC number.

Table D-110   Field Descriptions for the VC-4 Tab (continued)

Field	Description
Customer ID	The user-defined customer ID number.
Service ID	The user-defined service ID number.

D.4.4.7 STS Tab (ONS 15454 SONET)

The STS tab allows you to view and update OC192/STM64 XFR-based card STS information.

Table D-111   Field Descriptions for the STS Tab

Field	Description
STS Config	
Displays the STS number, the intermediate path protection monitoring (IPPM) status, and XC loopback status.	
Path Thresh 15 Min	
STS Number	The synchronous transport signal number.
CV-P	Coding violations–path.
ES-P	Errored seconds–path.
SES-P	Severely errored seconds–path.
UAS-P	Unavailable seconds–path.
FC-P	Failure count–path.
PPJC-Pdet	Positive pointer justification count, STS path detected.
NPJC-Pdet	Negative pointer justification count, STS path detected.
PPJC-Pgen	Positive pointer justification count, STS path generated.
NPJC-Pgen	Negative pointer justification count, STS path generated.
PJCS-Pdet	Positive pointer justification count, STS path detected.
PJCS-Pgen	Positive pointer justification count, STS path generated.
PJC-Diff	The sum of the absolute values of differences between positive transmitted and received, and negative transmitted and received. The important metric on pointer justification is not the exact counts, but how many were absorbed.
Path Thresh 1 Day	
STS Number	The synchronous transport signal number.
CV-P	Coding violations–path.
ES-P	Errored seconds–path.
SES-P	Severely errored seconds–path.
UAS-P	Unavailable seconds–path.
FC-P	Failure count–path.
PPJC-Pdet	Positive pointer justification count, STS path detected.
NPJC-Pdet	Negative pointer justification count, STS path detected.
PPJC-Pgen	Positive pointer justification count, STS path generated.
NPJC-Pgen	Negative pointer justification count, STS path generated.

Table D-111   Field Descriptions for the STS Tab (continued)

Field	Description
PJCS-Pdet	Positive pointer justification count, STS path detected.
PJCS-Pgen	Positive pointer justification count, STS path generated.
PJC-Diff	The sum of the absolute values of differences between positive transmitted and received, and negative transmitted and received. The important metric on pointer justification is not the exact counts, but how many were absorbed.
Customer Info	
STS Number	The STS number.
Customer ID	The user-defined customer ID number.
Service ID	The user-defined service ID number.

D.4.4.8 Loopback Tab

The Loopback tab allows you to view and update OC192/STM64 XFR-based card loopback information.

Table D-112   Field Descriptions for the Loopback Tab

Field	Description
Port Number	Displays the port number.
Admin State	Displays the status of the line. The line can be In Service (IS), In Service–Auto In Service Soak (IS_AINS), Out of Service (OOS), or Out of Service–Maintenance (OOS_MT).

Table D-112   Field Descriptions for the Loopback Tab (continued)

Field	Description
Service State	Overall availability of the entity. Values are: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped. There is nothing in the slot. • UAS—Unassigned. The entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic In Service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE release does not support the Service state, this field shows *N/A*.
Loopback Type	Allows you to configure a port to terminal loopback (Inward) or Facility (Line), or clear the current loopback (none). **Note** The line state must be OOS_MT before you can configure the loopback type.
Send AIS on Facility Loopback	When selected, sends AIS on the facility loopback.
Send AIS on Terminal Loopback	When selected, sends AIS on the terminal loopback.

D.4.4.9 Protection Tab

The Protection tab allows you to view and update OC192/STM64 XFR-based card protection group information.

Table D-113   Field Descriptions for the Protection Tab

Field	Description
Protection Groups	Displays a list of available protection groups.
Protection Group Details	Displays details about the selected protection group.

D.4.4.10 Alarm Behavior Tab

The Alarm Behavior tab allows you to view and update OC192/STM64 XFR-based card alarm profile information.

Table D-114   Field Descriptions for the Alarm Behavior Tab

Field	Description
Alarm Profile	Displays the alarm profile that has been configured for the card.
Suppress Alarms	If checked, indicates that all alarms are suppressed for the card.
Port Number	Displays the card port number.
Alarm Profile	Choose an alarm profile for the port from the drop-down list. Values are Default, Inherited, or a customized alarm profile.
Suppress Alarms	If checked, all alarms are suppressed for the port.
Alarm Profile	Choose an alarm profile for all ports.
Force to All Ports	When clicked, forces all the ports to the selected alarm profile.

D.4.4.11 Transceiver Tab

The Transceiver tab allows you to view and update OC192/STM64 XFR-based card transceiver information.

Table D-115   Field Descriptions for the Transceiver Tab

Field	Description
Port No.	The port number.
Non-normalized LBC (mA)	The actual operating value of laser bias current (in mA) for the specified card port.
Non-normalized OPT (dBm)	The actual operating value of optical power transmitted (in dBm) for the specified card port.
Non-normalized OPR (dBm)	The actual operating value of optical power received (in dBm) for the specified card port.

D.4.4.12 Auto Laser Shutdown Tab

The Auto Laser Shutdown tab allows you to view and update OC192/STM64 XFR-based card ALS parameters.

Table D-116   Field Descriptions for the Auto Laser Shutdown Tab

Field	Description
Port No.	Displays the port number.
ALS Mode	Displays the ALS mode (Disabled, Auto Restart, Manual Restart, or Manual Restart for Test).
Rec. Pulse Dur. (sec)	Allows you to set the received laser pulse duration, in seconds. The range is 2.0 to 100.0 seconds.
Rec. Pulse Int. (sec)	Allows you to set the received laser pulse interval, in seconds. The range is 60 to 300 seconds.

Table D-116   Field Descriptions for the Auto Laser Shutdown Tab (continued)

Field	Description
Status	Displays the current laser status. Values are Shutdown or Not Shutdown.
Request Restart	If selected, it allows you to request a laser restart. This parameter is configurable only when the ALS mode is set to Manual Restart or Manual Restart for Test and when the laser status is Shut Down.

D.4.4.13 Section Trace Tab

The Section Trace tab allows you to change the section trace settings for the OC192/STM64 XFR-based card.

Table D-117   Field Descriptions for the Section Trace Tab

Field	Description
Port Number	Displays the port number.
Trace Mode	The trace mode (Off/None or Manual).
Disable AIS/RDI on TIM-S	Allows you to disable the Alarm Indication Signal (AIS) and the Remote Defect Indication (RDI) when the path Trace Identifier Mismatch Section (TIM-S) alarm is detected.
Transmit Length	Select a transmit length for the trace.
Current Transmit String	Displays the current transmit string. The trail trace identifier is 64 bytes in length.
Current Expected String	Displays the current expected string; sets a new expected string.
Current Received String	Displays the current received string.

D.4.4.14 J1 Path Trace Tab

The J1 Path Trace tab allows you to view and update OC192/STM64 XFR-based card J1 path trace information.

Table D-118   Field Descriptions for the J1 Path Trace Tab

Field	Description
Port Number	Displays the port number.
STS Number	Displays the STS number.
Expected String	Displays the current expected string.
Received String	Displays the current received string.
Mode	Displays the path trace mode (Off/None, Auto, or Manual).
C2	Represents a machine-generated J1/J2 payload label byte.
Display	Click the **Display** button to view the circuit trace information. See 7.2.21.2 Viewing a J1 Path Trace from the NE Explorer, page 7-134 for more information.
Retrieve	Click the **Retrieve** button to retrieve J1 path trace information.

D.4.4.15 Info Tab

The Info tab allows you to view nominal operating values set during manufacturing for the OC192/STM64 XFR-based card.

Table D-119   Field Descriptions for the Info Tab

Field	Description
Extended Manufacturing Information	
Attribute	Displays the nominal card specification.
Value	Displays the value of the attribute.

Note   See Table 1-20 on page 1-44 for descriptions of actions that can be performed using the buttons at the bottom of the window.

D.4.5 Slot Properties—OC3 IR 4 1310

The Slot Properties pane displays information about the Cisco ONS 15327 or ONS 15454 slot that is selected in the NE Explorer tree. Use this properties pane to change the module performance monitoring thresholds.

The Optical Connector (OC3 IR 4/STM1 SH 1310) card provides four intermediate or short range SONET/SDH OC-3 ports compliant with the International Telecommunication Union (ITU-T) G.707, ITU-T G.957, and Telcordia GR-253-CORE. Each port operates at 155.52 Mbps over a single-mode fiber span. The card supports VT and nonconcatenated or concatenated payloads at the STS-1 or STS-3c signal levels.

For the OC3 IR 4/STM1 SH 1310 module, the Slot Properties pane displays the following tabs: Module View, Identification, Line, STS, Loopback, Protection, Alarm Behavior, J1 Path Trace, and Info.

D.4.5.1 Module View Tab

The Module View tab displays a graphic of the OC3 IR 4/STM1 SH 1310 that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Alarms are also displayed when you move the mouse pointer over the graphic.) The Suppress Alarms check box is read-only and indicates whether all alarms are suppressed for the card and its port(s). Right-clicking the graphic opens a shortcut menu that you can use to reset, delete, or change the card.

D.4.5.2 Identification Tab

The Identification tab allows you to view and update OC3 IR 4/STM1 SH 1310 identification information.

Table D-120   Field Descriptions for the Identification Tab

Field	Description
Equipment Type	Displays the equipment type that the slot is provisioned for.
Actual Equipment Type	Displays the actual card that is installed in the slot.

Table D-120   Field Descriptions for the Identification Tab (continued)

Field	Description
Hardware Part Number	Displays the card part number that is printed on the top of the card.
Hardware Revision	Displays the hardware revision number.
Serial Number	Displays the card serial number that is unique to each card.
CLEI Code	Displays the CLEI code.
Firmware Version	Displays the revision number of the software used by the ASIC chip installed on the card.
Product ID	Displays a product ID string of 63 characters maximum. If the card does not support the product ID, the field shows N/A.
Version ID	Displays a version ID string in the format "V99_." The version ID always begins with a V and ends with a space. If the card does not support the version ID, the field shows N/A.
Administration State	The port administration state. It can be: • IS—In Service. • IS, AINS—Automatic In Service. • OOS, DSBLD—Out of Service, Disabled. • OOS, MT—Out of Service, Maintenance.
Service State	Overall availability of the entity. Values are: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped. There is nothing in the slot. • UAS—Unassigned. The entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic In Service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE release does not support the Service state, this field shows *N/A*.
Equipment State	Displays the equipment state of the card.
Alarm Profile	Sets the alarm profile for the port. Check the **Suppress Alarms** check box to suppress all alarms for this card and its port(s).

D.4.5.3 Line Tab

The Line tab allows you to view and update OC3 IR 4/STM1 SH 1310 optical line performance monitoring information.

Table D-121   Field Descriptions for the Line Tab

Field	Description
Line Config	
Port Number	Displays the optical port number.
Port Name	Allows you to enter the name of the optical port.
SD BER	Sets the signal degrade bit error rate.
SF BER	Sets the signal fail bit error rate.
Type	Defines the port as SONET or SDH.
PJSTSMon#	Sets the STS that will be used for pointer justification. If set to 0, no STS is monitored. Only one STS can be monitored on each OC-N port. • 0 (Cisco default)–3 (OC3, per port) • 0 (Cisco default)–12 (OC-12) • 0 (Cisco default)–48 (OC-48)
ProvidesSync	If checked, the card is provisioned as an NE timing reference.
EnableSyncMsg	Enables synchronization status messages (S1 byte), which allow the node to choose the best timing source.
Send DoNotUse	When checked, sends a do not use (DUS) message on the S1 byte.
Admin State	Displays the status of the line. The line can be In Service (IS), In Service–Auto In Service Soak (IS_AINS), Out of Service (OOS), or Out of Service–Maintenance (OOS_MT).
AINS Soak	Automatic in-service soak. The determination of duration left before the traffic/termination transitions to IS state.
AINS Soak Count Down	Automatic in-service soak countdown. Displays the remaining time of valid input signal in *hh:mm*, after which the card becomes in service (IS) automatically.

Table D-121   Field Descriptions for the Line Tab (continued)

Field	Description
Service State	Overall availability of the entity. Values are: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped. There is nothing in the slot. • UAS—Unassigned. The entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic In Service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE release does not support the Service state, this field shows *N/A*.
Admin SSM	If the node does not receive an SSM signal, it defaults to STU (synchronization traceability unknown). Admin SSM allows you to override the STU value with one of the following: • PRS—Primary reference source (Stratum 1) • STS2—Stratum 2 • TNC—Transit node clock • STS3E—Stratum 3E • STS3—Stratum 3 • SMC—SONET minimum clock • ST4—Stratum 4
Send <FF> DoNotUse	When checked, sends a special do not use (DUS) (0xff) message on the S1 byte.
Line Thresh 15 Minutes	
Port Number	The optical port number
ES-L	Errored seconds–line
SES-L	Severely errored seconds–line
CV-L	Coding violations–line
UAS-L	Unavailable seconds–line

Table D-121   Field Descriptions for the Line Tab (continued)

Field	Description
FC-L	Failure count–line
PSC	Protection switching count—Near-end only
PSD	Protection switching duration—Near-end only
Line Thresh 1 Day	
Port Number	The optical port number
ES-L	Errored seconds–line
SES-L	Severely errored seconds–line
CV-L	Coding violations–line
UAS-L	Unavailable seconds–line
FC-L	Failure count–line
PSC	Protection switching count—Near-end only
PSD	Protection switching duration—Near-end only
Section Thresh 15 Minutes	
Port Number	The optical port number
CV-S	Coding violations–section
ES-S	Errored seconds–section
SES-S	Severely errored seconds–section
SEFS-S	Severely errored framing seconds–section
Section Thresh 1 Day	
Port Number	The optical port number
CV-S	Coding violations–section
ES-S	Errored seconds–section
SES-S	Severely errored seconds–section
SEFS-S	Severely errored framing seconds–section

D.4.5.4 STS Tab

The STS tab allows you to view and update OC3 IR 4/STM1 SH 1310 STS information.

Table D-122   Field Descriptions for the STS Tab

Field	Description
STS Config	
Displays the STS number, the intermediate path protection monitoring (IPPM) status, and XC loopback status.	
Path Thresh 15 Min	
STS Number	The synchronous transport signal number
CV-P	Coding violations–path
ES-P	Errored seconds–path

Table D-122   Field Descriptions for the STS Tab (continued)

Field	Description
SES-P	Severely errored seconds–path
UAS-P	Unavailable seconds–path
FC-P	Failure count–path
PPJC-Pdet	Positive pointer justification count, STS path detected
NPJC-Pdet	Negative pointer justification count, STS path detected
PPJC-Pgen	Positive pointer justification count, STS path generated
NPJC-Pgen	Negative pointer justification count, STS path generated
PJCS-Pdet	Positive pointer justification count, STS path detected
PJCS-Pgen	Positive pointer justification count, STS path generated
PJC-Diff	The sum of the absolute values of differences between positive transmitted and received, and negative transmitted and received. The important metric on pointer justification is not the exact counts, but how many were absorbed.
Path Thresh 1 Day	
STS Number	The synchronous transport signal number
CV-P	Coding violations–path
ES-P	Errored seconds–path
SES-P	Severely errored seconds–path
UAS-P	Unavailable seconds–path
FC-P	Failure count–path
PPJC-Pdet	Positive pointer justification count, STS path detected
NPJC-Pdet	Negative pointer justification count, STS path detected
PPJC-Pgen	Positive pointer justification count, STS path generated
NPJC-Pgen	Negative pointer justification count, STS path generated
PJCS-Pdet	Positive pointer justification count, STS path detected
PJCS-Pgen	Positive pointer justification count, STS path generated
PJC-Diff	The sum of the absolute values of differences between positive transmitted and received, and negative transmitted and received. The important metric on pointer justification is not the exact counts, but how many were absorbed.
Customer Info	
STS Number	The STS number
Customer ID	The user-defined customer ID number
Service ID	The user-defined service ID number

D.4.5.5 Loopback Tab

The Loopback tab allows you to view and update OC3 IR 4/STM1 SH 1310 loopback information.

Table D-123   Field Descriptions for the Loopback Tab

Field	Description
Port Number	Displays the port number.
Admin State	Displays the status of the line. The line can be In Service (IS), In Service–Auto In Service Soak (IS_AINS), Out of Service (OOS), or Out of Service–Maintenance (OOS_MT).
Loopback Type	Allows you to configure a port to terminal loopback (Inward) or Facility (Line), or clear the current loopback (none). **Note** The line state must be OOS_MT before you can configure the loopback type.
Service State	Overall availability of the entity. Values are: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped. There is nothing in the slot. • UAS—Unassigned. The entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic In Service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE release does not support the Service state, this field shows *N/A*.

D.4.5.6 Protection Tab

The Protection tab allows you to view and update OC3 IR 4/STM1 SH 1310 protection group information.

Table D-124   Field Descriptions for the Protection Tab

Field	Description
Protection Groups	Displays a list of available protection groups.
Protection Group Details	Displays details about the selected protection group.

D.4.5.7 Alarm Behavior Tab

The Alarm Behavior tab allows you to view and update OC3 IR 4/STM1 SH 1310 alarm profile information.

Table D-125   Field Descriptions for the Alarm Behavior Tab

Field	Description
Alarm Profile	Displays the alarm profile that has been configured for the card.
Suppress Alarms	If checked, indicates that all alarms are suppressed for the card.
Port Number	Displays the card port number.
Alarm Profile	Choose an alarm profile for the port from the drop-down list. Values are Default, Inherited, or a customized alarm profile.
Suppress Alarms	If checked, all alarms are suppressed for the port.
Alarm Profile	Choose an alarm profile for all ports.
Force to All Ports	When clicked, forces all the ports to the selected alarm profile.

D.4.5.8 J1 Path Trace Tab

The J1 Path Trace tab allows you to view and update OC3 IR 4/STM1 SH 1310 J1 path trace information.

Note   This tab is not available on ONS 15327 OC3 IR 4/STM1 SH 1310 cards.

Table D-126   Field Descriptions for the J1 Path Trace Tab

Field	Description
Port Number	Displays the port number.
STS Number	Displays the STS number.
Expected String	Displays the current expected string.
Received String	Displays the current received string.
Mode	Displays the path trace mode (Off/None, Auto, or Manual).
C2	Represents a machine-generated J1/J2 payload label byte.
Mismatch	Indicates whether there is a mismatch in the C2 byte received.
Vcat Member Number	Displays the virtual concatenation (VCAT) member number.
Display	Click the **Display** button to view the circuit trace information. See 7.2.21.2 Viewing a J1 Path Trace from the NE Explorer, page 7-134 for more information.
Retrieve	Click the **Retrieve** button to retrieve J1 path trace information.

D.4.5.9 Info Tab

The Info tab allows you to view nominal operating values set during manufacturing for the OC3 IR 4/STM1 SH 1310 module.

Table D-127 Field Descriptions for the Info Tab

Field	Description
Extended Manufacturing Information	
Attribute	Displays the nominal card specification.
Value	Displays the value of the attribute.

Note See Table 1-20 on page 1-44 for descriptions of actions that can be performed using the buttons at the bottom of the window.

D.4.6 Slot Properties—OC3 IR/STM1 SH 1310-8

The Slot Properties pane displays information about the Cisco ONS 15454 SONET or ONS 15454 SDH slot that is selected in the NE Explorer tree. Use this properties pane to change the module performance monitoring thresholds.

The OC3 IR/STM1 SH 1310-8 card provides eight intermediate or short range SONET/SDH OC-3 ports compliant with ITU-T G.707, ITU-T G.957, and Telcordia GR-253-CORE. Each port operates at 155.52 Mbps over a single-mode fiber span. The card supports VT and nonconcatenated or concatenated payloads at the STS-1 or STS-3c signal levels.

For the OC3 IR/STM1 SH 1310-8 module, the Slot Properties pane displays the following tabs: Module View, Identification, Line, STS, Loopback, Protection, Alarm Behavior, Auto Laser Shutdown, J1 Path Trace, and Info.

D.4.6.1 Module View Tab

The Module View tab displays a graphic of the OC3 IR/STM1 SH 1310-8 that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Alarms are also displayed when you move the mouse pointer over the graphic.) The Suppress Alarms check box is read-only and indicates whether all alarms are suppressed for the card and its port(s). Right-clicking the graphic opens a shortcut menu that you can use to reset, delete, or change the card.

D.4.6.2 Identification Tab

The Identification tab allows you to view and update OC3 IR/STM1 SH 1310-8 identification information.

Table D-128 Field Descriptions for the Identification Tab

Field	Description
Equipment Type	Displays the equipment type that the slot is provisioned for.
Actual Equipment Type	Displays the actual card that is installed in the slot.
Hardware Part Number	Displays the card part number that is printed on the top of the card.
Hardware Revision	Displays the hardware revision number.

Table D-128   Field Descriptions for the Identification Tab (continued)

Field	Description
Serial Number	Displays the card serial number that is unique to each card.
CLEI Code	Displays the CLEI code.
Firmware Version	Displays the revision number of the software used by the ASIC chip installed on the card.
Product ID	Displays a product ID string of 63 characters maximum. If the card does not support the product ID, the field shows N/A.
Version ID	Displays a version ID string in the format "V99_." The version ID always begins with a V and ends with a space. If the card does not support the version ID, the field shows N/A.
Administration State	The port administration state. It can be: • IS—In Service. • IS, AINS—Automatic In Service. • OOS, DSBLD—Out of Service, Disabled. • OOS, MT—Out of Service, Maintenance.
Service State	Overall availability of the entity. Values are: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped. There is nothing in the slot. • UAS—Unassigned. The entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic In Service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE release does not support the Service state, this field shows *N/A*.
Equipment State	Displays the equipment state of the card.
Alarm Profile	Sets the alarm profile for the port. Check the **Suppress Alarms** check box to suppress all alarms for this card and its port(s).

D.4.6.3 Line Tab

The Line tab allows you to view and update OC3 IR/STM1 SH 1310-8 optical line performance monitoring information.

Table D-129   Field Descriptions for the Line Tab

Field	Description
Line Config	
Port Number	Displays the optical port number.
Port Name	Allows you to enter the name of the optical port.
SD BER	Sets the signal degrade bit error rate.
SF BER	Sets the signal fail bit error rate.
Type	Defines the port as SONET or SDH.
PJSTSMon#	Sets the STS that will be used for pointer justification. If set to 0, no STS is monitored. Only one STS can be monitored on each OC-N port. • 0 (Cisco default)–3 (OC3, per port) • 0 (Cisco default)–12 (OC-12) • 0 (Cisco default)–48 (OC-48)
ProvidesSync	If checked, the card is provisioned as an NE timing reference.
EnableSyncMsg	Enables synchronization status messages (S1 byte), which allow the node to choose the best timing source.
Send DoNotUse	When checked, sends a do not use (DUS) message on the S1 byte.
Admin State	Displays the status of the line. The line can be In Service (IS), In Service–Auto In Service Soak (IS_AINS), Out of Service (OOS), or Out of Service–Maintenance (OOS_MT).
AINS Soak	Automatic in-service soak. The determination of duration left before the traffic/termination transitions to IS state.
AINS Soak Count Down	Automatic in-service soak countdown. Displays the remaining time of valid input signal in *hh:mm*, after which the card becomes in service (IS) automatically.
ALS Mode	Allows you to select the ALS mode (Disabled, Auto Restart, Manual Restart, or Manual Restart for Test). ALS is a laser safety feature defined by ITU G.664.

Table D-129   Field Descriptions for the Line Tab (continued)

Field	Description
Service State	Overall availability of the entity. Values are: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped. There is nothing in the slot. • UAS—Unassigned. The entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic In Service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE release does not support the Service state, this field shows *N/A*.
Admin SSM	If the node does not receive an SSM signal, it defaults to STU (synchronization traceability unknown). Admin SSM allows you to override the STU value with one of the following: • PRS—Primary reference source (Stratum 1) • STS2—Stratum 2 • TNC—Transit node clock • STS3E—Stratum 3E • STS3—Stratum 3 • SMC—SONET minimum clock • ST4—Stratum 4
Send <FF> DoNotUse	When checked, sends a special do not use (DUS) (0xff) message on the S1 byte.
Line Thresh 15 Minutes	
Port Number	The optical port number
ES-L	Errored seconds–line
SES-L	Severely errored seconds–line
CV-L	Coding violations–line
UAS-L	Unavailable seconds–line

Table D-129   Field Descriptions for the Line Tab (continued)

Field	Description
FC-L	Failure count–line
PSC	Protection switching count—Near-end only
PSD	Protection switching duration—Near-end only
Line Thresh 1 Day	
Port Number	The optical port number
ES-L	Errored seconds–line
SES-L	Severely errored seconds–line
CV-L	Coding violations–line
UAS-L	Unavailable seconds–line
FC-L	Failure count–line
PSC	Protection switching count—Near-end only
PSD	Protection switching duration—Near-end only
Section Thresh 15 Minutes	
Port Number	The optical port number
CV-S	Coding violations–section
ES-S	Errored seconds–section
SES-S	Severely errored seconds–section
SEFS-S	Severely errored framing seconds–section
Section Thresh 1 Day	
Port Number	The optical port number
CV-S	Coding violations–section
ES-S	Errored seconds–section
SES-S	Severely errored seconds–section
SEFS-S	Severely errored framing seconds–section

D.4.6.4 STS Tab

The STS tab allows you to view and update OC3 IR/STM1 SH 1310-8 STS information.

Table D-130   Field Descriptions for the STS Tab

Field	Description
STS Config	
Displays the STS number, the intermediate path protection monitoring (IPPM) status, and XC loopback status.	
Path Thresh 15 Min	
STS Number	The synchronous transport signal number
CV-P	Coding violations–path
ES-P	Errored seconds–path

Table D-130   Field Descriptions for the STS Tab (continued)

Field	Description
SES-P	Severely errored seconds–path
UAS-P	Unavailable seconds–path
FC-P	Failure count–path
PPJC-Pdet	Positive pointer justification count, STS path detected
NPJC-Pdet	Negative pointer justification count, STS path detected
PPJC-Pgen	Positive pointer justification count, STS path generated
NPJC-Pgen	Negative pointer justification count, STS path generated
PJCS-Pdet	Positive pointer justification count, STS path detected
PJCS-Pgen	Positive pointer justification count, STS path generated
PJC-Diff	The sum of the absolute values of differences between positive transmitted and received, and negative transmitted and received. The important metric on pointer justification is not the exact counts, but how many were absorbed.
Path Thresh 1 Day	
STS Number	The synchronous transport signal number
CV-P	Coding violations–path
ES-P	Errored seconds–path
SES-P	Severely errored seconds–path
UAS-P	Unavailable seconds–path
FC-P	Failure count–path
PPJC-Pdet	Positive pointer justification count, STS path detected
NPJC-Pdet	Negative pointer justification count, STS path detected
PPJC-Pgen	Positive pointer justification count, STS path generated
NPJC-Pgen	Negative pointer justification count, STS path generated
PJCS-Pdet	Positive pointer justification count, STS path detected
PJCS-Pgen	Positive pointer justification count, STS path generated
PJC-Diff	The sum of the absolute values of differences between positive transmitted and received, and negative transmitted and received. The important metric on pointer justification is not the exact counts, but how many were absorbed.
Customer Info	
STS Number	The STS number
Customer ID	The user-defined customer ID number
Service ID	The user-defined service ID number

D.4.6.5 Loopback Tab

The Loopback tab allows you to view and update OC3 IR/STM1 SH 1310-8 loopback information.

Table D-131   Field Descriptions for the Loopback Tab

Field	Description
Port Number	Displays the port number.
Admin State	Displays the status of the line. The line can be In Service (IS), In Service–Auto In Service Soak (IS_AINS), Out of Service (OOS), or Out of Service–Maintenance (OOS_MT).
Loopback Type	Allows you to configure a port to terminal loopback (Inward) or Facility (Line), or clear the current loopback (none). **Note** The line state must be OOS_MT before you can configure the loopback type.
Service State	Overall availability of the entity. Values are: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped. There is nothing in the slot. • UAS—Unassigned. The entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic In Service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE release does not support the Service state, this field shows *N/A*.

D.4.6.6 Protection Tab

The Protection tab allows you to view and update OC3 IR/STM1 SH 1310-8 protection group information.

Table D-132   Field Descriptions for the Protection Tab

Field	Description
Protection Groups	Displays a list of available protection groups.
Protection Group Details	Displays details about the selected protection group.

D.4.6.7 Alarm Behavior Tab

The Alarm Behavior tab allows you to view and update OC3 IR/STM1 SH 1310-8 alarm profile information.

Table D-133   Field Descriptions for the Alarm Behavior Tab

Field	Description
Alarm Profile	Displays the alarm profile that has been configured for the card.
Suppress Alarms	If checked, indicates that all alarms are suppressed for the card.
Port Number	Displays the card port number.
Alarm Profile	Choose an alarm profile for the port from the drop-down list. Values are Default, Inherited, or a customized alarm profile.
Suppress Alarms	If checked, all alarms are suppressed for the port.
Alarm Profile	Choose an alarm profile for all ports.
Force to All Ports	When clicked, forces all the ports to the selected alarm profile.

D.4.6.8 Auto Laser Shutdown Tab

The Auto Laser Shutdown tab allows you to view and update OC3 IR/STM1 SH 1310-8 ALS parameters.

Table D-134   Field Descriptions for the Auto Laser Shutdown Tab

Field	Description
Port No.	Displays the port number.
ALS Mode	Displays the ALS mode (Disabled, Auto Restart, Manual Restart, or Manual Restart for Test).
Rec. Pulse Dur. (sec)	Allows you to set the received laser pulse duration, in seconds. The range is 2.0 to 100.0 seconds.
Rec. Pulse Int. (sec)	Allows you to set the received laser pulse interval, in seconds. The range is 60 to 300 seconds.
Status	Displays the current laser status. Values are Shutdown or Not Shutdown.
Request Restart	If selected, it allows you to request a laser restart. This parameter is configurable only when the ALS mode is set to Manual Restart or Manual Restart for Test and when the laser status is Shut Down.

D.4.6.9 J1 Path Trace Tab

The J1 Path Trace tab allows you to view and update OC3 IR/STM1 SH 1310-8 J1 path trace information.

Table D-135   Field Descriptions for the J1 Path Trace Tab

Field	Description
Port Number	Displays the port number.
STS Number	Displays the STS number.
Expected String	Displays the current expected string.
Received String	Displays the current received string.

Table D-135   Field Descriptions for the J1 Path Trace Tab (continued)

Field	Description
Mode	Displays the path trace mode (Off/None, Auto, or Manual).
C2	Represents a machine-generated J1/J2 payload label byte.
Mismatch	Indicates whether there is a mismatch in the C2 byte received.
Vcat Member Number	Displays the virtual concatenation (VCAT) member number.
Display	Click the **Display** button to view the circuit trace information. See 7.2.21.2 Viewing a J1 Path Trace from the NE Explorer, page 7-134 for more information.
Retrieve	Click the **Retrieve** button to retrieve J1 path trace information.

D.4.6.10 Info Tab

The Info tab allows you to view nominal operating values set during manufacturing for the OC3 IR/STM1 SH 1310-8 module.

Table D-136   Field Descriptions for the Info Tab

Field	Description
Extended Manufacturing Information	
Attribute	Displays the nominal card specification.
Value	Displays the value of the attribute.

Note   See Table 1-20 on page 1-44 for descriptions of actions that can be performed using the buttons at the bottom of the window.

D.4.7 Slot Properties—OC48

The Slot Properties pane displays information about the Cisco ONS 15600 slot that is selected in the NE Explorer tree. Use this properties pane to change the module performance monitoring thresholds.

For the OC48 module, the Slot Properties pane displays the following tabs: Module View, Identification, Line, STS, Loopback, Transceiver, Protection, Alarm Behavior, and J1 Path Trace.

D.4.7.1 Module View Tab

The Module View tab displays a graphic of the OC48 that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Alarms are also displayed when you move the mouse pointer over the graphic.) The Suppress Alarms check box is read-only and indicates whether all alarms are suppressed for the card and its port(s). Right-clicking the graphic opens a shortcut menu that you can use to reset, delete, or change the card.

D.4.7.2 Identification Tab

The Identification tab allows you to view and update OC48 identification information.

Table D-137   Field Descriptions for the Identification Tab

Field	Description
Equipment Type	Displays the equipment type the slot is provisioned for.
Actual Equipment Type	Displays the actual card that is installed in the slot.
Hardware Part Number	Displays the card part number that is printed on the top of the card.
Hardware Revision	Displays the hardware revision number of the card.
Serial Number	Displays the card serial number that is unique to each card.
CLEI Code	Displays the CLEI code.
Firmware Version	Displays the revision number of the software used by the ASIC chip installed on the card.
User Code	Allows you to enter an ASCII string to identify the card. The user code is stored in nonvolatile memory so that it is not lost when the unit is moved or stored as a spare.
Product ID	Displays a product ID string of 63 characters maximum. If the card does not support the product ID, the field shows N/A.
Version ID	Displays a version ID string in the format "V99_." The version ID always begins with a V and ends with a space. If the card does not support the version ID, the field shows N/A.
Equipment State	Displays the equipment state of the card.
Alarm Profile	Sets the alarm profile for the port. Check the **Suppress Alarms** check box to suppress all alarms for this card and its port(s).

D.4.7.3 Line Tab

The Line tab allows you to view and update OC48 optical line performance monitoring information.

Table D-138   Field Descriptions for the Line Tab

Subfield	Description
Line Config	
Port Number	Displays the optical port number.
Port Name	Allows you to enter the name of the optical port.
SD BER	Sets the signal degrade bit error rate.
SF BER	Sets the signal fail bit error rate.
ProvidesSync	If checked, the card is provisioned as an NE timing reference.
EnableSyncMsg	Enables synchronization status messages (S1 byte), which allow the node to choose the best timing source.
Send DoNotUse	When checked, sends a do not use (DUS) message on the S1 byte.
Admin State	Select the designation that drives whether an entity is in service or out of service. The Admin state is the driver for the Service state.

Table D-138   Field Descriptions for the Line Tab (continued)

Subfield	Description
Service State	Displays the service state: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped; there is nothing in the slot. • UAS—Unassigned; the entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic in service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE does not support the Service State, this field shows N/A.
Synchronization Status Message	Allows you to view the incoming synchronization status message. Values are: • PRS (Primary reference source Stratum 1) • STU (Sync traceability unknown) • ST2 (Stratum 2) • ST3 (Stratum 3) • ST3E (Stratum 3E) • SMC (SONET minimum clock) • ST4 (Stratum 4) • TNC (Transit node clock) • DUS (Do not use for timing synchronization) • RES (Reserved; quality level set by user)
BLSR Ext. Byte	Select an alternate BLSR byte. Choices are Z2, E2, or F1.
Type	Defines the port as SONET or SDH.
Section Thresh 15 Minutes	
Port Number	The optical port number.
CV-S	Coding violations–section.

Table D-138   Field Descriptions for the Line Tab (continued)

Subfield	Description
ES-S	Errored seconds–section.
SES-S	Severely errored seconds–section.
SEFS-S	Severely errored framing seconds–section.
Section Thresh 1 Day	
Port Number	The optical port number.
CV-S	Coding violations–section.
ES-S	Errored seconds–section.
SES-S	Severely errored seconds–section.
SEFS-S	Severely errored framing seconds–section.
Line Thresh 15 Minutes	
Near End	
Port Number	The optical port number.
ES-L	Errored seconds–line.
SES-L	Severely errored seconds–line.
CV-L	Coding violations–line.
UAS-L	Unavailable seconds–line.
FC-L	Failure count–line.
PSC	Protection switching count.
PSD	Protection switching duration.
PSC-W	Protection switching count—working.
PSD-W	Protection switching duration—working.
Far End	
Port Number	The optical port number.
ES-L	Errored seconds–line.
SES-L	Severely errored seconds–line.
CV-L	Coding violations–line.
UAS-L	Unavailable seconds–line.
FC-L	Failure count–line.
Line Thresh 1 Day	
Near End	
Port Number	The optical port number.
ES-L	Errored seconds–line.
SES-L	Severely errored seconds–line.
CV-L	Coding violations–line.
UAS-L	Unavailable seconds–line.
FC-L	Failure count–line.

Table D-138   Field Descriptions for the Line Tab (continued)

Subfield	Description
PSC	Protection switching count.
PSD	Protection switching duration.
PSC-W	Protection switching count–working.
PSD-W	Protection switching duration–working.
Far End	
Port Number	The optical port number.
ES-L	Errored seconds–line.
SES-L	Severely errored seconds–line.
CV-L	Coding violations–line.
UAS-L	Unavailable seconds–line.
FC-L	Failure count–line.
Physical Thresh 15 Minutes	
Port No.	Port number.
LBC-HIGH	Laser bias current maximum. Cisco default is (15 min): 150 percent.
LBC-LOW	Laser bias current minimum. Cisco default is (15 min): 50 percent.
OPT-HIGH	Optical power transmitted maximum. Cisco default is (15 min): 120 percent.
OPT-LOW	Optical power transmitted minimum. Cisco default is (15 min): 80 percent.
OPR-HIGH	Optical power received maximum. Cisco default is (15 min): 200 percent.
OPR-LOW	Optical power received minimum. Cisco default is (15 min): 50 percent.
Set OPR	Setting the optical power received (OPR) establishes the received power level as 100 percent. If the receiver power decreases, then the OPR percentage decreases to reflect the loss in receiver power. For example, if the receiver power decreases 3 dBm, the OPR decreases 50 percent.
Physical Thresh 1 Day	
Port No.	Port number.
LBC-HIGH	Laser bias current maximum. Cisco default is (15 min): 150 percent.
LBC-LOW	Laser bias current minimum. Cisco default is (15 min): 50 percent.
OPT-HIGH	Optical power transmitted maximum. Cisco default is (15 min): 120 percent.
OPT-LOW	Optical power transmitted minimum. Cisco default is (15 min): 80 percent.
OPR-HIGH	Optical power received maximum. Cisco default is (15 min): 200 percent.
OPR-LOW	Optical power received minimum. Cisco default is (15 min): 50 percent.
Set OPR	Setting the optical power received (OPR) establishes the received power level as 100 percent. If the receiver power decreases, then the OPR percentage decreases to reflect the loss in receiver power. For example, if the receiver power decreases 3 dBm, the OPR decreases 50 percent.

D.4.7.4 STS Tab

The STS tab allows you to view and update OC48 STS information.

Table D-139   Field Descriptions for the STS Tab

Field	Description
STS Config	
Displays the STS number, intermediate path protection monitoring (IPPM), and XC loopback status.	
Path Threshold 15 Minutes	
STS Number	The synchronous transport signal number
CV-P	Coding violations–path
ES-P	Errored seconds–path
SES-P	Severely errored seconds–path
UAS-P	Unavailable seconds–path
FC-P	Failure count–path
PPJC-Pdet	Positive pointer justification count, STS path detected
NPJC-Pdet	Negative pointer justification count, STS path detected
PPJC-Pgen	Positive pointer justification count, STS path generated
NPJC-Pgen	Negative pointer justification count, STS path generated
Path Threshold 1 Day	
STS Number	The synchronous transport signal number
CV-P	Coding violations–path
ES-P	Errored seconds–path
SES-P	Severely errored seconds–path
UAS-P	Unavailable seconds–path
FC-P	Failure count–path
PPJC-Pdet	Positive pointer justification count, STS path detected
NPJC-Pdet	Negative pointer justification count, STS path detected
PPJC-Pgen	Positive pointer justification count, STS path generated
NPJC-Pgen	Negative pointer justification count, STS path generated
Customer Info	
VC Number	The VC number
Customer ID	The user-defined customer ID number
Service ID	The user-defined service ID number

D.4.7.5 Loopback Tab

The Loopback tab allows you to view and update OC48 loopback information.

Table D-140   Field Descriptions for the Loopback Tab

Field	Description
Port Number	Displays the port number.
State	Displays the current state of the port.
Loopback Type	Allows you to configure a port to terminal loopback (Inward) or clear the current loopback (none).

D.4.7.6 Transceiver Tab

The Transceiver tab allows you to view and update OC48 transceiver information.

Table D-141   Field Descriptions for the Transceiver Tab

Field	Description
Port No.	The port number.
Non-normalized LBC (mA)	The actual operating value of laser bias current (in mA) for the specified card port.
Non-normalized OPT (dBm)	The actual operating value of optical power transmitted (in dBm) for the specified card port.
Non-normalized OPR (dBm)	The actual operating value of optical power received (in dBm) for the specified card port.

D.4.7.7 Protection Tab

The Protection tab allows you to view and update OC48 protection group information.

Table D-142   Field Descriptions for the Protection Tab

Field	Description
Protection Groups	Displays a list of available protection groups.
Protection Group Details	Displays details about the selected protection group.

D.4.7.8 Alarm Behavior Tab

The Alarm Behavior tab allows you to view and update OC48 alarm profile information.

Table D-143   Field Descriptions for the Alarm Behavior Tab

Field	Description
Parent Profile	Choose a global alarm profile for the card from the drop-down list.
Port Number	Displays the OC48 port number.
Alarm Profile	Choose an alarm profile for the slot from the drop-down list.
Suppress Alarms	If checked, all alarms are suppressed for the port.
Force to All Ports	When clicked, forces all the ports to the selected alarm profile.

D.4.7.9 J1 Path Trace Tab

The J1 Path Trace tab allows you to view the OC48 J1 path trace information.

Table D-144   Field Descriptions for the J1 Path Trace Tab

Field	Description
Port Number	Displays the port number.
VC Number	Displays the VC number.
Expected String	Displays the current expected string.
Received String	Displays the current received string.
Mode	Displays the path trace mode (Off/None, Auto, or Manual).
C2	Represents a machine-generated J1/J2 payload label byte.
Mismatch	Indicates whether there is a mismatch in the C2 byte received.
Display	Click the **Display** button to view the circuit trace information. See 7.2.21.2 Viewing a J1 Path Trace from the NE Explorer, page 7-134 for more information.
Retrieve	Click the **Retrieve** button to retrieve J1 path trace information.

Note   See Table 1-20 on page 1-44 for descriptions of actions that can be performed using the buttons at the bottom of the window.

D.4.8 Slot Properties—OC48 IR 1310

The Slot Properties pane displays information about the Cisco ONS 15327 or ONS 15454 slot that is selected in the NE Explorer tree. Use this properties pane to change the module performance monitoring thresholds.

The ONS 15454 Optical Connector (OC48 IR 1310) card provides one intermediate-range, Telcordia GR-253-CORE compliant SONET OC-48 port per card. Each port operates at 2.49 Gbps over a single-mode fiber span. The card supports VT, nonconcatenated, or concatenated payloads at STS-1, STS-3c, STS-6c, STS-12c, or STS-48c signal levels.

For the OC48 IR 1310 module, the Slot Properties pane displays the following tabs: Module View, Identification, Line, STS, Loopback, Protection, Alarm Behavior, Auto Laser Shutdown, and J1 Path Trace.

Note   The OC48 any slot (AS) card supports J1 path trace, but the OC48 card does not.

D.4.8.1 Module View Tab

The Module View tab displays a graphic of the OC48 IR 1310 that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Alarms are also displayed when you move the mouse pointer over the graphic.) The Suppress Alarms check box is read-only and indicates whether all alarms are suppressed for the card and its port(s). Right-clicking the graphic opens a shortcut menu that you can use to reset, delete, or change the card.

D.4.8.2 Identification Tab

The Identification tab allows you to view and update OC48 IR 1310 identification information.

Table D-145   Field Descriptions for the Identification Tab

Field	Description
Equipment Type	Displays the equipment type the slot is provisioned for.
Actual Equipment Type	Displays the actual card that is installed in the slot.
Hardware Part Number	Displays the card part number that is printed on the top of the card.
Hardware Revision	Displays the hardware revision number of the card.
Serial Number	Displays the card serial number that is unique to each card.
CLEI Code	Displays the CLEI code.
Firmware Version	Displays the revision number of the software used by the ASIC chip installed on the card.
Product ID	Displays a product ID string of 63 characters maximum. If the card does not support the product ID, the field shows N/A.
Version ID	Displays a version ID string in the format "V99_." The version ID always begins with a V and ends with a space. If the card does not support the version ID, the field shows N/A.
Administration State	The port administration state. It can be: • IS—In Service. • IS, AINS—Automatic In Service. • OOS, DSBLD—Out of Service, Disabled. • OOS, MT—Out of Service, Maintenance.

Table D-145   Field Descriptions for the Identification Tab (continued)

Field	Description
Service State	Overall availability of the entity. Values are: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped. There is nothing in the slot. • UAS—Unassigned. The entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic In Service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE release does not support the Service state, this field shows *N/A*.
Equipment State	Displays the equipment state of the card.
Alarm Profile	Sets the alarm profile for the port. Check the **Suppress Alarms** check box to suppress all alarms for this card and its port(s).

D.4.8.3 Line Tab

The Line tab allows you to view and update OC48 IR 1310 optical line performance monitoring information.

Table D-146   Field Descriptions for the Line Tab

Subfield	Description
Line Config	
Port Number	Displays the optical port number.
Port Name	Allows you to enter the name of the optical port.
SD BER	Sets the signal degrade bit error rate.
SF BER	Sets the signal fail bit error rate.
Type	Defines the port as SONET or SDH.

Table D-146   Field Descriptions for the Line Tab (continued)

Subfield	Description
PJSTSMon#	Sets the STS that will be used for pointer justification. If set to 0, no STS is monitored. Only one STS can be monitored on each OC-N port. • 0 (Cisco default)–3 (OC3, per port) • 0 (Cisco default)–12 (OC-12) • 0 (Cisco default)–48 (OC-48)
ProvidesSync	If checked, the card is provisioned as an NE timing reference.
EnableSyncMsg	Enables synchronization status messages (S1 byte), which allow the node to choose the best timing source.
Admin SSM	If the node does not receive an SSM signal, it defaults to STU (synchronization traceability unknown). Admin SSM allows you to override the STU value with one of the following: • PRS—Primary reference source (Stratum 1) • STS2—Stratum 2 • TNC—Transit node clock • STS3E—Stratum 3E • STS3—Stratum 3 • SMC—SONET minimum clock • ST4—Stratum 4
Send DoNotUse	When checked, sends a do not use (DUS) message on the S1 byte.
Admin State	Select the designation that drives whether an entity is in service or out of service. The Admin state is the driver for the Service state.

Table D-146   Field Descriptions for the Line Tab (continued)

Subfield	Description
Service State	Displays the service state: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped; there is nothing in the slot. • UAS—Unassigned; the entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic in service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE does not support the Service State, this field shows N/A.
AINS Soak	Automatic in-service soak. The determination of duration left before the traffic/termination transitions to IS state.
AINS Soak Count Down	Automatic in-service soak countdown. Displays the remaining time of valid input signal in *hh:mm*, after which the card becomes in service (IS) automatically.
BLSR Ext. Byte	Select an alternate BLSR byte. Choices are Z2, E2, or F1.
Line Threshold 15 Minutes	
Near End	
Port Number	The optical port number
ES-L	Errored seconds–line
SES-L	Severely errored seconds–line
CV-L	Coding violations–line
UAS-L	Unavailable seconds–line
FC-L	Failure count–line
PSC	Protection switching count—Near-end only
PSD	Protection switching duration—Near-end only
PSC-W	Protection switching count—working
PSD-W	Protection switching duration—working

Table D-146   Field Descriptions for the Line Tab (continued)

Subfield	Description
PSC-S	Protection switching count—span
PSD-S	Protection switching duration—span
PSC-R	Protection switching count—ring
PSD-R	Protection switching duration—ring
Far End	
Port Number	The optical port number
ES-L	Errored seconds–line
SES-L	Severely errored seconds–line
CV-L	Coding violations–line
UAS-L	Unavailable seconds–line
FC-L	Failure count–line
Line Threshold 1 Day	
Near End	
Port Number	The optical port number
ES-L	Errored seconds–line
SES-L	Severely errored seconds–line
CV-L	Coding violations–line
UAS-L	Unavailable seconds–line
FC-L	Failure count–line
PSC	Protection switching count—Near-end only
PSD	Protection switching duration—Near-end only
PSC-W	Protection switching count—working
PSD-W	Protection switching duration—working
PSC-S	Protection switching count—span
PSD-S	Protection switching duration—span
PSC-R	Protection switching count—ring
PSD-R	Protection switching duration—ring
Far End	
Port Number	The optical port number
ES-L	Errored seconds–line
SES-L	Severely errored seconds–line
CV-L	Coding violations–line
UAS-L	Unavailable seconds–line
FC-L	Failure count–line
Section Threshold 15 Minutes	
Port Number	The optical port number

Table D-146   Field Descriptions for the Line Tab (continued)

Subfield	Description
CV-S	Coding violations–section
ES-S	Errored seconds–section
SES-S	Severely errored seconds–section
SEFS-S	Severely errored framing seconds–section
Section Threshold 1 Day	
Port Number	The optical port number
CV-S	Coding violations–section
ES-S	Errored seconds–section
SES-S	Severely errored seconds–section
SEFS-S	Severely errored framing seconds–section

D.4.8.4 STS Tab

The STS tab allows you to view and update OC48 IR 1310 STS information.

Table D-147   Field Descriptions for the STS Tab

Field	Description
STS Config	
Displays the STS number, the intermediate path protection monitoring (IPPM) status, and XC loopback status.	
Path Threshold 15 Minutes	
STS Number	The synchronous transport signal number
CV-P	Coding violations–path
ES-P	Errored seconds–path
SES-P	Severely errored seconds–path
UAS-P	Unavailable seconds–path
FC-P	Failure count–path
PPJC-Pdet	Positive pointer justification count, STS path detected
NPJC-Pdet	Negative pointer justification count, STS path detected
PPJC-Pgen	Positive pointer justification count, STS path generated
NPJC-Pgen	Negative pointer justification count, STS path generated
PJCS-Pdet	Positive pointer justification count, STS path detected
PJCS-Pgen	Positive pointer justification count, STS path generated
PJC-Diff	The sum of the absolute values of differences between positive transmitted and received, and negative transmitted and received. The important metric on pointer justification is not the exact counts, but how many were absorbed.
Path Threshold 1 Day	
STS Number	The synchronous transport signal number
CV-P	Coding violations–path

Table D-147   Field Descriptions for the STS Tab (continued)

Field	Description
ES-P	Errored seconds–path
SES-P	Severely errored seconds–path
UAS-P	Unavailable seconds–path
FC-P	Failure count–path
PPJC-Pdet	Positive pointer justification count, STS path detected
NPJC-Pdet	Negative pointer justification count, STS path detected
PPJC-Pgen	Positive pointer justification count, STS path generated
NPJC-Pgen	Negative pointer justification count, STS path generated
PJCS-Pdet	Positive pointer justification count, STS path detected
PJCS-Pgen	Positive pointer justification count, STS path generated
PJC-Diff	The sum of the absolute values of differences between positive transmitted and received, and negative transmitted and received. The important metric on pointer justification is not the exact counts, but how many were absorbed.
Customer Info	
STS Number	The STS number
Customer ID	The user-defined customer ID number
Service ID	The user-defined service ID number

D.4.8.5 Loopback Tab

The Loopback tab allows you to view and update OC48 IR 1310 loopback information.

Table D-148   Field Descriptions for the Loopback Tab

Field	Description
Port Number	Displays the port number.
State	Displays the status of the line. The line can be In Service (IS), In Service–Auto In Service Soak (IS_AINS), Out of Service (OOS), or Out of Service–Maintenance (OOS_MT).
Loopback Type	Allows you to configure a port to terminal loopback (Inward) or Facility (Line), or clear the current loopback (none). **Note** The line state must be OOS_MT before you can configure the loopback type.

D.4.8.6 Protection Tab

The Protection tab allows you to view and update OC48 IR 1310 protection group information.

Table D-149   Field Descriptions for the Protection Tab

Field	Description
Protection Groups	Displays a list of available protection groups.
Protection Group Details	Displays details about the selected protection group.

D.4.8.7 Alarm Behavior Tab

The Alarm Behavior tab allows you to view and update OC48 IR 1310 alarm profile information.

Table D-150   Field Descriptions for the Alarm Behavior Tab

Field	Description
Alarm Profile	Displays the alarm profile that has been configured for the card.
Suppress Alarms	If checked, indicates that all alarms are suppressed for the card.
Port Number	Displays the card port number.
Alarm Profile	Choose an alarm profile for the port from the drop-down list. Values are Default, Inherited, or a customized alarm profile.
Suppress Alarms	If checked, all alarms are suppressed for the port.
Alarm Profile	Choose an alarm profile for all ports.
Force to All Ports	When clicked, forces all the ports to the selected alarm profile.

D.4.8.8 Auto Laser Shutdown Tab

The Auto Laser Shutdown tab allows you to view and update OC48 IR 1310 ALS parameters.

Table D-151   Field Descriptions for the Auto Laser Shutdown Tab

Field	Description
Port No.	Displays the port number.
ALS Mode	Displays the ALS mode (Disabled, Auto Restart, Manual Restart, or Manual Restart for Test).
Rec. Pulse Dur. (sec)	Allows you to set the received laser pulse duration, in seconds. The range is 2.0 to 100.0 seconds.
Rec. Pulse Int. (sec)	Allows you to set the received laser pulse interval, in seconds. The range is 60 to 300 seconds.
Status	Displays the current laser status. Values are Shutdown or Not Shutdown.
Request Restart	If selected, it allows you to request a laser restart. This parameter is configurable only when the ALS mode is set to Manual Restart or Manual Restart for Test and when the laser status is Shut Down.

D.4.8.9 J1 Path Trace Tab

The J1 Path Trace tab allows you to view and update OC48 IR 1310 J1 path trace information.

Note   This tab is not available on ONS 15327 OC48 IR 1310 cards.

Note   The OC48_AS card supports J1 path trace, but the OC48 card does not.

Table D-152   Field Descriptions for the J1 Path Trace Tab

Field	Description
Port Number	Displays the port number.
STS Number	Displays the STS number.
Expected String	Displays the current expected string.
Received String	Displays the current received string.
Mode	Displays the path trace mode (Off/None, Auto, or Manual).
C2	Represents a machine-generated J1/J2 payload label byte.
Mismatch	Indicates whether there is a mismatch in the C2 byte received.
Vcat Member Number	Displays the virtual concatenation (VCAT) member number.
Display	Click the **Display** button to view the circuit trace information. See 7.2.21.2 Viewing a J1 Path Trace from the NE Explorer, page 7-134 for more information.
Retrieve	Click the **Retrieve** button to retrieve J1 path trace information.

Note   See Table 1-20 on page 1-44 for descriptions of actions that can be performed using the buttons at the bottom of the window.

D.4.9 Slot Properties—OC48 LR 1550

The Slot Properties pane displays information about the Cisco ONS 15327 or ONS 15454 slot that is selected in the NE Explorer tree. Use this properties pane to change the module performance monitoring thresholds.

The OC48 LR 1550 card provides one long-range, SONET OC-48 port per card, compliant with Telcordia GR-253-CORE. Each port operates at 2.49 Gbps over a single-mode fiber span. The card supports VT, nonconcatenated or concatenated payloads at STS-1, STS-3c, STS-6c, STS-12c, or STS-48c signal levels.

For the OC48 LR 1550 module, the Slot Properties pane displays the following tabs: Module View, Identification, Line, STS, Loopback, Protection, Alarm Behavior, Auto Laser Shutdown, and Info.

Note   The OC48 any slot (AS) card supports J1 path trace, but the OC48 card does not.

D.4.9.1 Module View Tab

The Module View tab displays a graphic of the OC48 LR 1550 that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Alarms are also displayed when you move the mouse pointer over the graphic.) The Suppress Alarms check box is read-only and indicates whether all alarms are suppressed for the card and its port(s). Right-clicking the graphic opens a shortcut menu that you can use to reset, delete, or change the card.

D.4.9.2 Identification Tab

The Identification tab allows you to view and update OC48 LR 1550 identification information.

Table D-153   Field Descriptions for the Identification Tab

Field	Description
Equipment Type	Displays the equipment type the slot is provisioned for.
Actual Equipment Type	Displays the actual card that is installed in the slot.
Hardware Part Number	Displays the card part number that is printed on the top of the card.
Hardware Revision	Displays the hardware revision number of the card.
Serial Number	Displays the card serial number that is unique to each card.
CLEI Code	Displays the CLEI code.
Firmware Version	Displays the revision number of the software used by the ASIC chip installed on the card.
Product ID	Displays a product ID string of 63 characters maximum. If the card does not support the product ID, the field shows N/A.
Version ID	Displays a version ID string in the format "V99_." The version ID always begins with a V and ends with a space. If the card does not support the version ID, the field shows N/A.
Admin State	Displays the status of the line. The line can be In Service (IS), In Service–Auto In Service Soak (IS_AINS), Out of Service (OOS), or Out of Service–Maintenance (OOS_MT).
Service State	Overall availability of the entity. Values are: - IS_NR—In Service–Normal. - OOS_AU—Out of Service–Autonomous. - OOS_MA—Out of Service–Management. - OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: - MEA—Mismatch of equipment due to invalid equipment insertion. - UEQ—Unequipped. There is nothing in the slot. - UAS—Unassigned. The entity does not exist, has not been created, or has been deleted. - SWDL—Software download in progress. - MT—Maintenance, as per the Admin State change. - AINS—Automatic In Service. - DSBLD—Traffic is disabled on the entity. - LPBK—Port or connection has a loopback on it. - FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE release does not support the Service state, this field shows *N/A*.

Table D-153   Field Descriptions for the Identification Tab (continued)

Field	Description
Equipment State	Displays the equipment state of the card.
Alarm Profile	Sets the alarm profile for the port. Check the **Suppress Alarms** check box to suppress all alarms for this card and its port(s).

D.4.9.3 Line Tab

The Line tab allows you to view and update OC48 LR 1550 line performance monitoring information.

Table D-154   Field Descriptions for the Line Tab

Subfield	Description
Line Config	
Port Number	Displays the optical port number.
Port Name	Allows you to enter the name of the optical port.
SD BER	Sets the signal degrade bit error rate.
SF BER	Sets the signal fail bit error rate.
Type	Defines the port as SONET or SDH.
PJSTSMon#	Sets the STS that will be used for pointer justification. If set to 0, no STS is monitored. Only one STS can be monitored on each OC-N port. • 0 (Cisco default)–3 (OC3, per port) • 0 (Cisco default)–12 (OC-12) • 0 (Cisco default)–48 (OC-48)
ProvidesSync	If checked, the card is provisioned as an NE timing reference.
EnableSyncMsg	Enables synchronization status messages (S1 byte), which allow the node to choose the best timing source.
Send DoNotUse	When checked, sends a do not use (DUS) message on the S1 byte.
Admin State	Displays the status of the line. The line can be In Service (IS), In Service–Auto In Service Soak (IS_AINS), Out of Service (OOS), or Out of Service–Maintenance (OOS_MT).
AINS Soak	Automatic in-service soak. The determination of duration left before the traffic/termination transitions to IS state.
AINS Soak Count Down	Automatic in-service soak countdown. Displays the remaining time of valid input signal in *hh:mm*, after which the card becomes in service (IS) automatically.
BLSR Ext. Byte	Select an alternate BLSR byte. Choices are Z2, E2, or F1.
ALS Mode	Allows you to select the ALS mode (Disabled, Auto Restart, Manual Restart, or Manual Restart for Test). ALS is a laser safety feature defined by ITU G.664.
Service State	Displays the overall availability of the entity. Values are: • IS_NR—In Service–Normal • OOS_AU—Out of Service–Autonomous • OOS_MA—Out of Service–Management • OOS_AUMA—Out of Service–Autonomous and Management

Table D-154   Field Descriptions for the Line Tab (continued)

Subfield	Description
Admin SSM	If the node does not receive an SSM signal, it defaults to STU (synchronization traceability unknown). Admin SSM allows you to override the STU value with one of the following: • PRS—Primary reference source (Stratum 1) • STS2—Stratum 2 • TNC—Transit node clock • STS3E—Stratum 3E • STS3—Stratum 3 • SMC—SONET minimum clock • ST4—Stratum 4
Send <FF> DoNotUse	When checked, sends a special do not use (DUS) (0xff) message on the S1 byte.
Line Threshold 15 Minutes	
Near End	
Port Number	The optical port number
ES-L	Errored seconds–line
SES-L	Severely errored seconds–line
CV-L	Coding violations–line
UAS-L	Unavailable seconds–line
FC-L	Failure count–line
PSC	Protection switching count—Near-end only
PSD	Protection switching duration—Near-end only
PSC-W	Protection switching count—working
PSD-W	Protection switching duration—working
PSC-S	Protection switching count—span
PSD-S	Protection switching duration—span
PSC-R	Protection switching count—ring
PSD-R	Protection switching duration—ring
Far End	
Port Number	The optical port number
ES-L	Errored seconds–line
SES-L	Severely errored seconds–line
CV-L	Coding violations–line
UAS-L	Unavailable seconds–line
FC-L	Failure count–line
Line Threshold 1 Day	
Near End	
Port Number	The optical port number

Table D-154   Field Descriptions for the Line Tab (continued)

Subfield	Description
ES-L	Errored seconds–line
SES-L	Severely errored seconds–line
CV-L	Coding violations–line
UAS-L	Unavailable seconds–line
FC-L	Failure count–line
PSC	Protection switching count–Near-end only
PSD	Protection switching duration–Near-end only
PSC-W	Protection switching count–working
PSD-W	Protection switching duration–working
PSC-S	Protection switching count–span
PSD-S	Protection switching duration–span
PSC-R	Protection switching count–ring
PSD-R	Protection switching duration–ring
Far End	
Port Number	The optical port number
ES-L	Errored seconds–line
SES-L	Severely errored seconds–line
CV-L	Coding violations–line
UAS-L	Unavailable seconds–line
FC-L	Failure count–line
Section Threshold 15 Minutes	
Port Number	The optical port number
CV-S	Coding violations–section
ES-S	Errored seconds–section
SES-S	Severely errored seconds–section
SEFS-S	Severely errored framing seconds–section
Section Threshold 1 Day	
Port Number	The optical port number
CV-S	Coding violations–section
ES-S	Errored seconds–section
SES-S	Severely errored seconds–section
SEFS-S	Severely errored framing seconds–section

D.4.9.4 STS Tab

The STS tab allows you to view and update OC48 LR 1550 STS information.

Table D-155   Field Descriptions for the STS Tab

Field	Description
STS Config	
Displays the STS number, the intermediate path protection monitoring (IPPM) status, and XC loopback status.	
Path Threshold 15 Minutes	
STS Number	The synchronous transport signal number
CV-P	Coding violations–path
ES-P	Errored seconds–path
SES-P	Severely errored seconds–path
UAS-P	Unavailable seconds–path
FC-P	Failure count–path
PPJC-Pdet	Positive pointer justification count, STS path detected
NPJC-Pdet	Negative pointer justification count, STS path detected
PPJC-Pgen	Positive pointer justification count, STS path generated
NPJC-Pgen	Negative pointer justification count, STS path generated
PJCS-Pdet	Positive pointer justification count, STS path detected
PJCS-Pgen	Positive pointer justification count, STS path generated
PJC-Diff	The sum of the absolute values of differences between positive transmitted and received, and negative transmitted and received. The important metric on pointer justification is not the exact counts, but how many were absorbed.
Path Threshold 1 Day	
STS Number	The synchronous transport signal number
CV-P	Coding violations–path
ES-P	Errored seconds–path
SES-P	Severely errored seconds–path
UAS-P	Unavailable seconds–path
FC-P	Failure count–path
PPJC-Pdet	Positive pointer justification count, STS path detected
NPJC-Pdet	Negative pointer justification count, STS path detected
PPJC-Pgen	Positive pointer justification count, STS path generated
NPJC-Pgen	Negative pointer justification count, STS path generated
PJCS-Pdet	Positive pointer justification count, STS path detected
PJCS-Pgen	Positive pointer justification count, STS path generated
PJC-Diff	The sum of the absolute values of differences between positive transmitted and received, and negative transmitted and received. The important metric on pointer justification is not the exact counts, but how many were absorbed.
Customer Info	
STS Number	The STS number

Table D-155   Field Descriptions for the STS Tab (continued)

Field	Description
Customer ID	The user-defined customer ID number
Service ID	The user-defined service ID number

D.4.9.5 Loopback Tab

The Loopback tab allows you to view and update OC48 LR 1550 loopback information.

Table D-156   Field Descriptions for the Loopback Tab

Field	Description
Port Number	Displays the port number.
Admin State	Displays the status of the line. The line can be In Service (IS), In Service–Auto In Service Soak (IS_AINS), Out of Service (OOS), or Out of Service–Maintenance (OOS_MT).
Loopback Type	Allows you to configure a port to terminal loopback (Inward) or Facility (Line), or clear the current loopback (none). **Note** The line state must be OOS_MT before you can configure the loopback type.
Service State	Overall availability of the entity. Values are: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped. There is nothing in the slot. • UAS—Unassigned. The entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic In Service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE release does not support the Service state, this field shows *N/A*.

D.4.9.6 Protection Tab

The Protection tab allows you to view and update OC48 LR 1550 protection group information.

Table D-157   Field Descriptions for the Protection Tab

Field	Description
Protection Groups	Displays a list of available protection groups.
Protection Group Details	Displays details about the selected protection group.

D.4.9.7 Alarm Behavior Tab

The Alarm Behavior tab allows you to view and update OC48 LR 1550 alarm profile information.

Table D-158   Field Descriptions for the Alarm Behavior Tab

Field	Description
Alarm Profile	Displays the alarm profile that has been configured for the card.
Suppress Alarms	If checked, indicates that all alarms are suppressed for the card.
Port Number	Displays the card port number.
Alarm Profile	Choose an alarm profile for the port from the drop-down list. Values are Default, Inherited, or a customized alarm profile.
Suppress Alarms	If checked, all alarms are suppressed for the port.
Alarm Profile	Choose an alarm profile for all ports.
Force to All Ports	When clicked, forces all the ports to the selected alarm profile.

D.4.9.8 Auto Laser Shutdown Tab

The Auto Laser Shutdown tab allows you to view and update OC48 LR 1550 ALS parameters.

Table D-159   Field Descriptions for the Auto Laser Shutdown Tab

Field	Description
Port No.	Displays the port number.
ALS Mode	Displays the ALS mode (Disabled, Auto Restart, Manual Restart, or Manual Restart for Test).
Rec. Pulse Dur. (sec)	Allows you to set the received laser pulse duration, in seconds. The range is 2.0 to 100.0 seconds.
Rec. Pulse Int. (sec)	Allows you to set the received laser pulse interval, in seconds. The range is 60 to 300 seconds.
Status	Displays the current laser status. Values are Shutdown or Not Shutdown.
Request Restart	If selected, it allows you to request a laser restart. This parameter is configurable only when the ALS mode is set to Manual Restart or Manual Restart for Test and when the laser status is Shut Down.

D.4.9.9 Info Tab

The Info tab allows you to view nominal operating values set during manufacturing for the OC48 LR 1550 module.

Table D-160   Field Descriptions for the Info Tab

Field	Description
Extended Manufacturing Information	
Attribute	Displays the nominal card specification.
Value	Displays the value of the attribute.

Note   See Table 1-20 on page 1-44 for descriptions of actions that can be performed using the buttons at the bottom of the window.

D.4.10 Slot Properties—OECP-L

The Slot Properties pane displays information about the Cisco ONS 15808 module that is installed in the slot selected in the NE Explorer tree. Use this properties pane to change the module performance monitoring thresholds.

The Odd/Even Channel Processor–L band–Active (OECP-L) and Odd/Even Channel Processor–L band–Passive (OECP-L-P) modules are bidirectional multiplexer/demultiplexers. On the transmit side, the OECP-L-P module multiplexes the 20 odd-numbered channel signal and the 20 even-numbered channel signal into a composite 40-channel signal. The channels in the 20-channel signal are spaced at 100 GHz. The channels in the 40-channel composite signal are spaced at 50 GHz. On the receive side, the OECP-L module demultiplexes the composite 40-channel signal into two separate 20-channel signals.

Note   Operating temperature is monitored on the L-band boards only when they are configured as ACTIVE (OECP-L).

The card faceplate is shown in the following figure.

Figure D-1   Cisco ONS 15808 Odd/Even Channel Processor–L Band
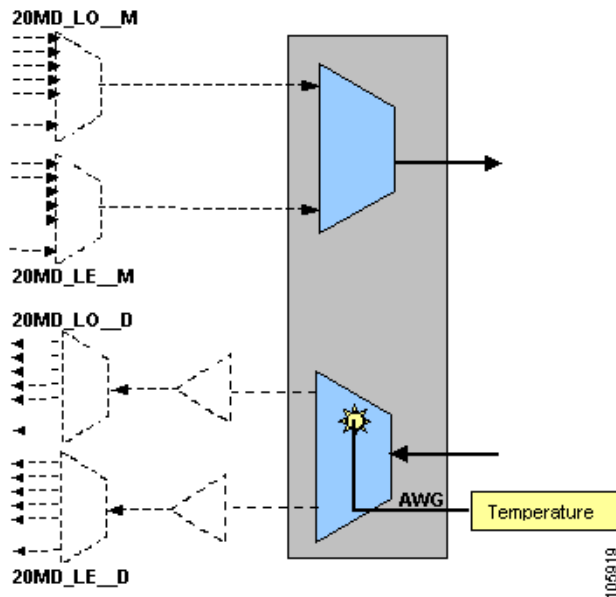
OECP-L modules shown on this sheet include:

- Odd/Even Channel Processor–L band–Active (OECP-L)
- Odd/Even Channel Processor–L band–Passive (OECP-L--P)

For ONS 15808 OECP-L modules, the Slot Properties pane displays the following tabs: Module View, Identification, Temperature, and Input Power.

D.4.10.1 Module View Tab

The Module View tab displays a graphic of the OECP-L module that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Moving the mouse pointer over the graphic also displays the alarm counts.) The module status is displayed under Operational State. Right-clicking the graphic opens a shortcut menu that you can use to display the module in the Equipment Inventory Table, in the Alarm Browser, or in the OECP PM Table.

D.4.10.2 Identification Tab

The Identification tab allows you to view and update OECP-L module identification information.

Table D-161   Field Descriptions for the Identification Tab

Field	Description
NE ID	Displays the user-defined name of the NE where the OECP-L module is installed.
Description	Displays information that a user has entered (if any) to describe the NE.
NE Model	Identifies the model of the selected NE (ONS 15808) where the OECP-L module is installed.
Rack ID	Displays the identification number of the rack where the subrack containing the OECP-L module is installed.
Subrack ID	Displays the identification number of the subrack.

Table D-161   Field Descriptions for the Identification Tab (continued)

Field	Description
Slot ID	Displays the identification number of the slot containing the OECP-L module.
Software Version	Displays the version of the software.
BIOS Version	Displays the version number of the BIOS.
Board Serial Number	Displays the serial number of the board.
SCC Number	Displays the version of the module serial communication controller (SCC).
Product Option	Displays the product option. Displays Not Available if TL1 Agent version is earlier than version 2.1.
Hardware Version	Displays the version of the hardware. Displays Not Available if TL1 Agent version is earlier than version 2.1.
Line Direction	Shows the line direction for the OECP-L module.
State	Allows you to place the OECP-L module in one of two states: In Service or Under Maintenance.
PM Collection Status	Allows you to enable or disable PM collection for the OECP-L module.

D.4.10.3 Temperature Tab

The Temperature tab allows you to assign performance monitoring thresholds for the OECP-L module operating temperature.

Table D-162   Field Descriptions for the Temperature Tab

Field	Description
Operating Temperature 1	
Value	When the Update button is clicked, displays the current temperature of Laser 1 (in degrees Celsius).
Fail Low	Sets the operating temperature low failure threshold, in degrees Celsius, and the alarm severity level.
Degrade Low	Sets the operating temperature low degrade threshold, in degrees Celsius, and the alarm severity level.
Degrade High	Sets the operating temperature high degrade threshold, in degrees Celsius, and the alarm severity level.
Fail High	Sets the operating temperature high failure threshold, in degrees Celsius, and the alarm severity level.
Maximum Insertion Loss 1	
Value	When the Update button is clicked, displays the current total optical power loss (in dB) for the OECP-L module. *Insertion loss* is the total optical power loss caused by insertion of an optical component.

D.4.10.4 Input Power Tab

The Input Power tab allows you to assign thresholds and alarm severities for the power coming into the OECP-L module lasers.

Table D-163   Field Descriptions for the Input Power Tab

Field	Description
Input Power 1	
Value	When the Update button is clicked, displays the current Laser 1 input power (in dBm).

Table D-163   Field Descriptions for the Input Power Tab (continued)

Field	Description
Fail	Sets the fail threshold for the Laser 1 input power, in dBm, and the alarm severity level.
Degrade	Sets the degrade threshold for the Laser 1 input power, in dBm, and the alarm severity level.
High	Sets the high threshold for the Laser 1 input power, in dBm, and the alarm severity level.

Note   See for descriptions of actions that can be performed using the buttons at the bottom of the window.

D.4.11 Slot Properties—S1.1-2-LC (ONS 15305 CTC)

The Slot Properties pane displays information about the Cisco ONS 15305 CTC slot that is selected in the NE Explorer tree. Use this properties pane to change the module performance monitoring thresholds.

The two optical STM-1 interfaces use a dual-fiber interface, an LC-style connector, one fiber in each direction, 1310 nm wavelength, and single-mode fiber of type 10/125 nm. The optical interfaces are compatible with ITU-T 957 for S-1.1.

The interface is an optical STM-1 short-haul interface, according to clause 5 ITU-T G.957. The definitions of optical parameters and reference points S and R refer to ITU-T G.957. Reference point S is the transmit direction; reference point R is the receive direction of the fiber. A module diagram is shown in the following figure.

Figure D-2   S1.1-2-LC Module
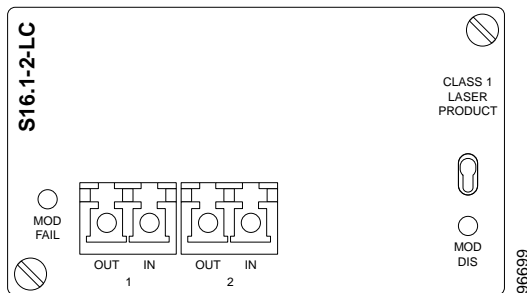
For the S1.1-2-LC module, the Slot Properties pane displays the following tabs: Module View, Identification, STM Line, VC-4 Config, and Loopback. The tabs shown depend on the NE configuration.

D.4.11.1 Module View Tab

The Module View tab displays a graphic of the S1.1-2-LC that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Alarms are also displayed when you move the mouse pointer over the graphic.) The Suppress Alarms check box is read-only and indicates whether all alarms are suppressed for the card and its port(s).

D.4.11.2 Identification Tab

The Identification tab allows you to view and update S1.1-2-LC identification information.

Table D-164   Field Descriptions for the Identification Tab

Field	Description
Equipment Type	Displays the equipment type the slot is provisioned for.
Actual Equipment Type	Displays the actual card that is installed in the slot.
HW Part Number	Displays the card part number that is printed on the top of the card.
Hardware Revision	Displays the hardware version number of the card.
Serial Number	Displays the card serial number that is unique to each card.
CLEI Code	Displays the CLEI code.
Firmware Version	Displays the revision number of the software used by the ASIC chip installed on the card.
Product ID	Displays a product ID string of 63 characters maximum. If the card does not support the product ID, the field shows N/A.
Version ID	Displays a version ID string in the format "V99_." The version ID always begins with a V and ends with a space. If the card does not support the version ID, the field shows N/A.
Equipment State	Displays the equipment state of the card.
Alarm Profile	Displays the alarm profile for the port.

D.4.11.3 STM Line Tab

The STM Line tab allows you to view and update S1.1-2-LC optical line performance monitoring information.

Table D-165   Field Descriptions for the STM Line Tab

Field	Description
Port Number	Displays the optical port number.
Port Name	Allows you to enter an optical port name.
ProvidesSync	If checked, the card is provisioned as an NE timing reference.
EnableSyncMsg	Enables synchronization status messages (S1 byte), which allow the node to choose the best timing source.
Send DoNotUse	When checked, sends a DNS (do not use) message on the S1 byte.
Admin State	Shows the administrative state of the port: In Service (IS), or Out of Service (OOS).

D.4.11.4 VC-4 Config Tab

The VC-4 Config tab allows you to view and update S1.1-2-LC VC-4 information.

Table D-166   Field Descriptions for the VC-4 Config Tab

Field	Description
VC Number	Displays the VC number.
IPPM Enabled	Check to enable intermediate path performance monitoring (IPPM) and uncheck to disable IPPM.
XC Loopback	Indicates cross-connect loopback.

D.4.11.5 Loopback Tab

The Loopback tab allows you to view and update STM-1 loopback information.

Table D-167   Field Descriptions for the Loopback Tab

Field	Description
Port Number	Displays the port number.
Admin State	Shows the administrative state of the port: In Service (IS), Out of Service–Disabled (OOS, DSBLD), or Out of Service–Maintenance (OOS_MT).
Loopback Type	Allows you to configure a port to terminal loopback (Inward) or clear the current loopback (none).

D.4.12 Slot Properties—S1.1-8-LC (ONS 15305 CTC)

The module contains eight optical STM-1 interfaces that meets the S-1.1 specification in ITU-T G.957. The physical connector is an LC connector. The module also contains 8 mapper circuits and an IP switch, allowing concentration of IP traffic mapped into VC-12 container. Since the mapper circuits are connected to the matrix, the mapper circuits are global resources which means that the traffic to be terminated may come from other modules in the system. A module diagram is shown in the following figure.

Figure D-3   Octal Optical S-1.1 Module, S1.1-8-LC
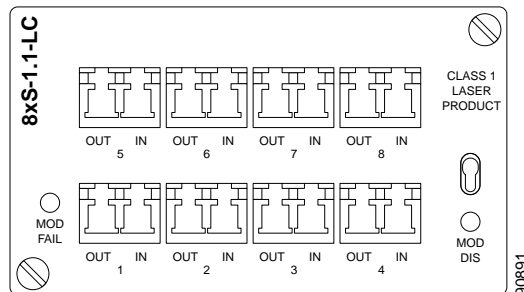
The Slot Properties pane displays information about the slot that is selected in the NE Explorer tree. Use this properties pane to change the module performance monitoring thresholds.

For the S1.1-8-LC module, the Slot Properties pane displays the following tabs: Module View, Identification, STM Line, and WAN Line. The tabs shown depend on the NE configuration.

D.4.12.1 Module View Tab

The Module View tab displays a graphic of the S1.1-8-LC that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Alarms are also displayed when you move the mouse pointer over the graphic.) The Suppress Alarms check box is read-only and indicates whether all alarms are suppressed for the card and its port(s).

D.4.12.2 Identification Tab

The Identification tab allows you to view and update S1.1-8-LC identification information.

Table D-168   Field Descriptions for the Identification Tab

Field	Description
Equipment Type	Displays the equipment type the slot is provisioned for.
Actual Equipment Type	Displays the actual card that is installed in the slot.
HW Part Number	Displays the card part number that is printed on the top of the card.
Hardware Revision	Displays the hardware version number of the card.
Serial Number	Displays the card serial number that is unique to each card.
CLEI Code	Displays the CLEI code.
Firmware Version	Displays the revision number of the software used by the ASIC chip installed on the card.
Product ID	Displays a product ID string of 63 characters maximum. If the card does not support the product ID, the field shows N/A.
Version ID	Displays a version ID string in the format "V99_." The version ID always begins with a V and ends with a space. If the card does not support the version ID, the field shows N/A.
Card Mode	Select the card mode.
Alarm Profile	Displays the alarm profile for the port.

D.4.12.3 STM Line Tab

The STM Line tab allows you to view and update S1.1-8-LC optical line performance monitoring information.

Table D-169   Field Descriptions for the STM Line Tab

Field	Description
Port Number	Displays the optical port number.
Port Name	Allows you to enter an optical port name.
ProvidesSync	If checked, the card is provisioned as an NE timing reference.
EnableSyncMsg	Enables synchronization status messages (S1 byte), which allow the node to choose the best timing source.
Send DoNotUse	When checked, sends a DNS (do not use) message on the S1 byte.
Admin State	Shows the administrative state of the port: In Service (IS), or Out of Service (OOS).

D.4.12.4 WAN Line Tab

The WAN Line tab allows you to view and configure wide-area network (WAN) line information.

Table D-170   Field Descriptions for the WAN Line Tab

| Field	Description
Port Number	Displays the optical port number.
Port Name	Allows you to enter an optical port name.
Link State	Displays the physical port state. Possible values are Up, Down, or Not Present.

Note   See Table 1-20 on page 1-44 for descriptions of actions that can be performed using the buttons at the bottom of the window.

D.4.13 Slot Properties—S16.1-1-LC (ONS 15305 CTC)

The S16.1-1-LC module contains one optical STM-16 interfaces that meets the S-16.1 specification in ITU-T G.957. The physical connector is an LC connector. The module only supports TDM traffic.

The Slot Properties pane displays information about the Cisco ONS 15305 CTC slot that is selected in the NE Explorer tree. Use this properties pane to change the module performance monitoring thresholds. A module diagram is shown in the following figure.

Figure D-4   Single Optical S-16.1 Module, S16.1-1-LC
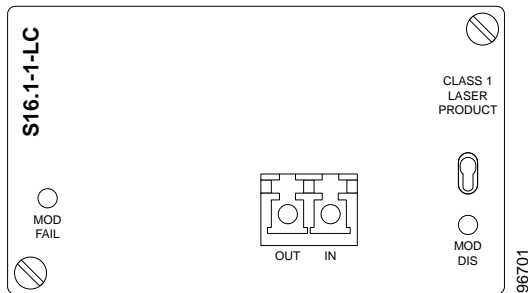
For the S16.1-1-LC module, the Slot Properties pane displays the following tabs: Module View, Identification, STM Line, VC-4 Config, and Loopback.

D.4.13.1 Module View Tab

The Module View tab displays a graphic of the S16.1-1-LC that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Alarms are also displayed when you move the mouse pointer over the graphic.) The Suppress Alarms check box is read-only and indicates whether all alarms are suppressed for the card and its port(s). Right-clicking the graphic opens a shortcut menu that you can use to reset, delete, or change the card.

D.4.13.2 Identification Tab

The Identification tab allows you to view and update S16.1-1-LC identification information.

Table D-171   Field Descriptions for the Identification Tab

Field	Description
Equipment Type	Displays the equipment type the slot is provisioned for.
Actual Equipment Type	Displays the actual card that is installed in the slot.
HW Part Number	Displays the card part number that is printed on the top of the card.
Hardware Revision	Displays the hardware revision number.
Serial Number	Displays the card serial number that is unique to each card.
CLEI Code	Displays the CLEI code.
Firmware Version	Displays the revision number of the software used by the ASIC chip installed on the card.
Product ID	Displays a product ID string of 63 characters maximum. If the card does not support the product ID, the field shows N/A.
Version ID	Displays a version ID string in the format "V99_." The version ID always begins with a V and ends with a space. If the card does not support the version ID, the field shows N/A.
Equipment State	Displays the equipment state of the card.
Alarm Profile	Displays the alarm profile for the port.

D.4.13.3 STM Line Tab

The STM Line tab allows you to view and update S16.1-1-LC optical line performance monitoring information.

Table D-172   Field Descriptions for the Line Tab

Field	Description
Port Number	Displays the optical port number.
Port Name	Allows you to enter an optical port name.
ProvidesSync	If checked, the card is provisioned as an NE timing reference.
EnableSyncMsg	Enables synchronization status messages (S1 byte), which allow the node to choose the best timing source.
Send DoNotUse	When checked, sends a DNS (do not use) message on the S1 byte.
Admin State	Shows the administrative state of the port: In Service (IS), or Out of Service (OOS).

D.4.13.4 VC-4 Config Tab

The VC-4 Config tab allows you to view and update S16.1-1-LC information.

Table D-173   Field Descriptions for the VC-4 Config Tab

Field	Description
VC Number	Displays the VC number.
IPPM Enabled	Check to enable intermediate path performance monitoring (IPPM) and uncheck to disable IPPM.
XC Loopback	Indicates cross-connect loopback.

D.4.13.5 Loopback Tab

The Loopback tab allows you to view and update S16.1-1-LC loopback information.

Table D-174   Field Descriptions for the Loopback Tab

Field	Description
Port Number	Displays the port number.
State	Displays the current loopback state.
Loopback Type	Allows you to configure a port to terminal loopback (Inward) or Facility (Line), or clear the current loopback (None).
	Note The line state must be OOS_MT before you can configure the loopback type.

Note   See Table 1-20 on page 1-44 for descriptions of actions that can be performed using the buttons at the bottom of the window.

D.4.14 Slot Properties—STM-1

The Slot Properties pane displays information about the Cisco ONS 15454 SDH slot that is selected in the NE Explorer tree. Use this properties pane to change the module performance monitoring thresholds.

The STM-1 IR 4/STM1 SH 1310 (STM1_4 and STM1_8) card provides four or eight intermediate or short range, ITU-T G.707-, ITU-T G.957-compliant, SDH STM-1 ports. Each port operates at 155.52 Mbps over a single-mode fiber span. The card supports concatenated or nonconcatenated payloads at the STM-1 signal level on a per-VC-4 basis.

For the STM-1 module, the Slot Properties pane displays the following tabs: Module View, Identification, Line, VC-4, Loopback, Protection, Alarm Behavior, Auto Laser Shutdown, and J1 Path Trace. The tabs shown depend on the NE configuration.

D.4.14.1 Module View Tab

The Module View tab displays a graphic of the STM-1 that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Alarms are also displayed when you move the mouse pointer over the graphic.) The Suppress Alarms check box is read-only and indicates whether all alarms are suppressed for the card and its port(s).

D.4.14.2 Identification Tab

The Identification tab allows you to view and update STM-1 identification information.

Table D-175   Field Descriptions for the Identification Tab

Field	Description
Equipment Type	Displays the equipment type the slot is provisioned for.
Actual Equipment Type	Displays the actual card that is installed in the slot.
HW Part Number	Displays the card part number that is printed on the top of the card.
Hardware Revision	Displays the hardware version number of the card.
Serial Number	Displays the card serial number that is unique to each card.
CLEI Code	Displays the CLEI code.
Firmware Version	Displays the revision number of the software used by the ASIC chip installed on the card.
Equipment State	Displays the equipment state of the card.
Alarm Profile	Sets the alarm profile for the port. Check the **Suppress Alarms** check box to suppress all alarms for this card and its port(s).

D.4.14.3 Line Tab

The Line tab allows you to view and update STM-1 optical line performance monitoring information.

Table D-176   Field Descriptions for the Line Tab

Field	Description
Line Config	
Port Number	Displays the optical port number.
Port Name	Allows you to enter an optical port name.
SD BER	Sets the signal degrade bit error rate.
SF BER	Sets the signal fail bit error rate.
Type	Defines the port.
PJVC-4 Mon#	Sets the VC that will be used for pointer justification. If set to 0, no VC is monitored. Only one VC can be monitored on each STM port.
ProvidesSync	If checked, the card is provisioned as an NE timing reference.
EnableSyncMsg	Enables synchronization status messages (S1 byte), which allow the node to choose the best timing source.
Send DoNotUse	When checked, sends a DNS (do not use) message on the S1 byte.
Admin State	Select the designation that drives whether an entity is in service or out of service. The Admin state is the driver for the Service state.

Table D-176   Field Descriptions for the Line Tab (continued)

Field	Description
Service State	Displays the service state: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped; there is nothing in the slot. • UAS—Unassigned; the entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic in service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE does not support the Service State, this field shows N/A.
AINS Soak	Automatic in-service soak. The determination of duration left before the traffic/termination transitions to IS state.
AINS Soak Count Down	Automatic in-service soak countdown. Displays the remaining time of valid input signal in *hh:mm*, after which the card becomes in service (IS) automatically.
MS-SPRing Ext. Byte	Select an alternate MS-SPRing byte.
RS Threshold 15 Minutes	
Port Number	The port number
EB-RS	Errored block–regenerator section
BBE-RS	Background block errors–regenerator section
ES-RS	Errored seconds–regenerator section
SES-RS	Severely errored seconds–regenerator section
UAS-RS	Unavailable seconds–regenerator section
OFS-RS	Out of framing seconds–regenerator section
RS Threshold 1 Day	
Port Number	The port number
EB-RS	Errored block–regenerator section
BBE-RS	Background block errors–regenerator section

Table D-176   Field Descriptions for the Line Tab (continued)

Field	Description
ES-RS	Errored seconds–regenerator section
SES-RS	Severely errored seconds–regenerator section
UAS-RS	Unavailable seconds–regenerator section
OFS-RS	Out of framing seconds–regenerator section
MS Threshold 15 Minutes	
Port Number	The port number
EB-MS	Errored block
BBE-MS	Background block errors
ES-MS	Errored seconds
SES-MS	Severely errored seconds
UAS-MS	Unavailable seconds
PPJC-PDET	Positive pointer justification count, path detected
NPJC-PDET	Negative pointer justification count, path detected
PPJC-PGEN	Positive pointer justification count, path generated
NPJC-PGEN	Negative pointer justification count, path generated
PSC	Protection switching counts
PSD	Protection switching duration
MS Threshold 1 Day	
Port Number	The port number
EB-MS	Errored block
BBE-MS	Background block errors
ES-MS	Errored seconds
SES-MS	Severely errored seconds
UAS-MS	Unavailable seconds
PPJC-PDET	Positive pointer justification count, path detected
NPJC-PDET	Negative pointer justification count, path detected
PPJC-PGEN	Positive pointer justification count, path generated
NPJC-PGEN	Negative pointer justification count, path generated
PSC	Protection switching counts
PSD	Protection switching duration

D.4.14.4 VC-4 Tab

The VC-4 tab allows you to view and update STM-1 VC-4 information.

Table D-177   Field Descriptions for the VC-4 Tab

Field	Description
VC-4	
Displays the VC-4 number, the intermediate path protection monitoring (IPPM) status, and the XC loopback status. The XC Loopback field only appears on ONS 15454 SDH Release 4.0.	
Threshold 15 Minutes	
VC Number	The VC number.
EB-HP	Errored block–higher order path.
BBE-HP	Background block errors–higher order path.
ES-HP	Errored seconds–higher order path.
SES-HP	Severely errored seconds–higher order path.
UAS-P	Unavailable seconds–higher order path.
Threshold 1 Day	
VC Number	The VC number.
EB-HP	Errored block–higher order path.
BBE-HP	Background block errors–higher order path.
ES-HP	Errored seconds–higher order path.
SES-HP	Severely errored seconds–higher order path.
UAS-P	Unavailable seconds–higher order path.
Customer Info	
VC Number	The VC number.
Customer ID	The user-defined customer ID number.
Service ID	The user-defined service ID number.

D.4.14.5 Loopback Tab

The Loopback tab allows you to view and update STM-1 loopback information.

Table D-178   Field Descriptions for the Loopback Tab

Field	Description
Port Number	Displays the port number.
State	Displays the current loopback state.
Loopback Type	Allows you to configure a port to terminal loopback (Inward) or clear the current loopback (none).

D.4.14.6 Protection Tab

The Protection tab allows you to view and update STM-1 protection group information.

Table D-179   Field Descriptions for the Protection Tab

Field	Description
Protection Groups	Displays a list of available protection groups.
Protection Group Details	Displays details about the selected protection group.

D.4.14.7 Alarm Behavior Tab

The Alarm Behavior tab allows you to view and update STM-1 alarm profile information.

Table D-180   Field Descriptions for the Alarm Behavior Tab

Field	Description
Alarm Profile	Displays the alarm profile that has been configured for the card.
Suppress Alarms	If checked, indicates that all alarms are suppressed for the card.
Port Number	Displays the card port number.
Alarm Profile	Choose an alarm profile for the port from the drop-down list. Values are Default, Inherited, or a customized alarm profile.
Suppress Alarms	If checked, all alarms are suppressed for the port.
Alarm Profile	Choose an alarm profile for all ports.
Force to All Ports	When clicked, forces all the ports to the selected alarm profile.

D.4.14.8 Auto Laser Shutdown Tab

The Auto Laser Shutdown tab allows you to view and update ALS parameters.

Table D-181   Field Descriptions for the Auto Laser Shutdown Tab

Field	Description
Port No.	Displays the port number.
ALS Mode	Displays the auto laser shutdown mode (Disabled, Auto Restart, Manual Restart, or Manual Restart for Test).
Rec. Pulse Dur. (sec)	Allows you to set the received laser pulse duration, in seconds. The range is 2.0 to 100.0 seconds.
Rec. Pulse Int. (sec)	Allows you to set the received laser pulse interval, in seconds. The range is 60 to 300 seconds.
Status	Displays the current laser status. Values are Shutdown or Not Shutdown.
Request Restart	If selected, it allows you to request a laser restart. This parameter is configurable only when the ALS mode is set to Manual Restart or Manual Restart for Test and when the laser status is Shut Down.

D.4.14.9 J1 Path Trace Tab

The J1 Path Trace tab allows you to view and retrieve J1 path trace information.

Table D-182   Field Descriptions for the J1 Path Trace Tab

Field	Description
Port Number	Displays the port number.
STS Number	Displays the STS number.
Expected String	Displays the current expected string.
Received String	Displays the current received string.
Mode	Displays the path trace mode (Off/None, Auto, or Manual).
C2	Represents a machine-generated J1/J2 payload label byte.
Mismatch	Indicates whether there is a mismatch in the C2 byte received.

Note   See Table 1-20 on page 1-44 for descriptions of actions that can be performed using the buttons at the bottom of the window.

D.4.15 Slot Properties—STM-1 S1.1-2-LC/E1-21 (ONS 15305 CTC)

The Slot Properties pane displays information about the Cisco ONS 15305 CTC slot that is selected in the NE Explorer tree. Use this properties pane to change the module performance monitoring thresholds.

The module contains two optical STM-1 short-haul interfaces and 21 E1 interfaces. The main functions of the module are O/E- E/O conversion and SDH multi/demultiplexing with VC-12, VC-3 and VC-4 granularity of the STM-1 traffic and VC-12 mapping/demapping demultiplexing of the E1 traffic. The module supports both transparent E1 data transmission according to ITU-T Rec. G.703 as well as the NT functionality of ISDN PRA according to ETSI 300 233. One high density LFH type connector is used to interface the 21 E1s, and a dual-fiber LC connector (one fiber in each direction) is used on the two STM1 interfaces. A module diagram is shown in the following figure.

Figure D-5   STM-1 S1.1-2-LC/E1-21 Module
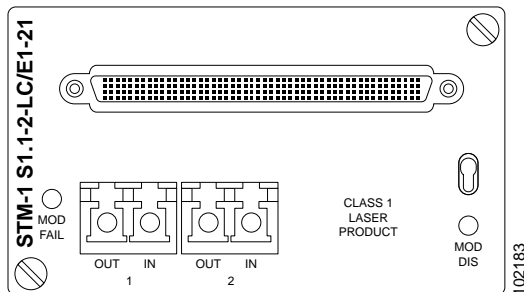
For the S1.1-2-LC/E1-21 module, the Slot Properties pane displays the following tabs: Module View, Identification, STM Line, and E1 Line. The tabs shown depend on the NE configuration.

D.4.15.1 Module View Tab

The Module View tab displays a graphic of the S1.1-2-LC/E1-21 that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Alarms are also displayed when you move the mouse pointer over the graphic.) The Suppress Alarms check box is read-only and indicates whether all alarms are suppressed for the card and its port(s).

D.4.15.2 Identification Tab

The Identification tab allows you to view and update S1.1-2-LC/E1-21 identification information.

Table D-183   Field Descriptions for the Identification Tab

Field	Description
Equipment Type	Displays the equipment type the slot is provisioned for.
Actual Equipment Type	Displays the actual card that is installed in the slot.
HW Part Number	Displays the card part number that is printed on the top of the card.
Hardware Revision	Displays the hardware version number of the card.
Serial Number	Displays the card serial number that is unique to each card.
CLEI Code	Displays the CLEI code.
Firmware Version	Displays the revision number of the software used by the ASIC chip installed on the card.
Product ID	Displays a product ID string of 63 characters maximum. If the card does not support the product ID, the field shows N/A.
Version ID	Displays a version ID string in the format "V99_." The version ID always begins with a V and ends with a space. If the card does not support the version ID, the field shows N/A.
Equipment State	Displays the equipment state of the card.
Alarm Profile	Displays the alarm profile for the port.
Suppress Alarms	If checked, all alarms are suppressed for the port.

D.4.15.3 STM Line Tab

The STM Line tab allows you to view and update S1.1-2-LC/E1-21 optical line performance monitoring information.

Table D-184   Field Descriptions for the Line Tab

Field	Description
Port Number	Displays the optical port number.
Port Name	Allows you to enter an optical port name.
ProvidesSync	If checked, the card is provisioned as an NE timing reference.
EnableSyncMsg	Enables synchronization status messages (S1 byte), which allow the node to choose the best timing source.
Send DoNotUse	When checked, sends a DNS (do not use) message on the S1 byte.
Admin State	Shows the administrative state of the port: In Service (IS), or Out of Service (OOS).

D.4.15.4 E1 Line Tab

The E1 Line tab allows you to view and update S1.1-2-LC/E1-21 optical line performance monitoring information.

Table D-185   Field Descriptions for the E1 Line Tab

Field	Description
Port Number	Displays the optical port number.
Port Name	Allows you to enter an optical port name.
Line Type	Allows you to select the line framing type.
Line Coding	Allows you to define the DS-1 transmission coding type.
Admin State	Shows the administrative state of the port: In Service (IS), Out of Service–Disabled (OOS, DSBLD), or Out of Service–Maintenance (OOS_MT).

D.4.16 Slot Properties—STM-1E-12

The Slot Properties pane displays information about the Cisco ONS 15454 SDH slot that is selected in the NE Explorer tree. Use this properties pane to change the module performance monitoring thresholds.

The twelve-port ONS 15454 SDH STM-1E-12 card provides twelve ITU-compliant, G.703 STM-1 ports per card. For release 5.0 NEs and earlier, ports 9 to 12 can be switched to E-4 instead of STM-1. Each interface operates at 155.52 Mbps for STM-1 or 139.264 Mbps for E-4 over a 75-ohm coaxial cable (with the FMEC STM1E NP card, the FMEC STM1E 1:1 card, or the FMEC STM1E 1:3 card). In E-4 mode, framed or unframed signal operation is possible. The STM1E-12 card operates as a working or protect card in 1:1 and in 1:3 protection schemes.

Note   For release 6.0 NEs, E-4 provisioning is not supported; all ports 1 to 12 are STM-1.

For the STM-1E-12 module, the Slot Properties pane displays the following tabs: Module View, Identification, Line, VC-4, Loopback, Protection, Alarm Behavior, and J1 Path Trace.

D.4.16.1 Module View Tab

The Module View tab displays a graphic of the STM1E-12 that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Alarms are also displayed when you move the mouse pointer over the graphic.) The Suppress Alarms check box is read-only and indicates whether all alarms are suppressed for the card and its port(s). Right-clicking the graphic opens a shortcut menu that you can use to reset, delete, or change the card.

D.4.16.2 Identification Tab

The Identification tab allows you to view and update STM-1E-12 identification information.

Table D-186   Field Descriptions for the Identification Tab

Field	Description
Equipment Type	Displays the equipment type the slot is provisioned for.
Actual Equipment Type	Displays the actual card that is installed in the slot.
HW Part Number	Displays the card part number that is printed on the top of the card.
Hardware Revision	Displays the hardware revision number.
Serial Number	Displays the card serial number that is unique to each card.
CLEI Code	Displays the CLEI code.
Firmware Version	Displays the revision number of the software used by the ASIC chip installed on the card.
Product ID	Displays a product ID string of 63 characters maximum. If the card does not support the product ID, the field shows N/A.
Version ID	Displays a version ID string in the format "V99_." The version ID always begins with a V and ends with a space. If the card does not support the version ID, the field shows N/A.
Equipment State	Displays the equipment state of the card.
Alarm Profile	Sets the alarm profile for the port. Check the **Suppress Alarms** check box to suppress all alarms for this card and its port(s).

D.4.16.3 Line Tab

The Line tab allows you to view and update STM-1E-12 line performance monitoring information.

Table D-187   Field Descriptions for the Line Tab

Field	Description
Line Config	
Port Number	Displays the optical port number.
Port Name	Allows you to enter an optical port name.
SD BER	Sets the signal degrade bit error rate.
SF BER	Sets the signal fail bit error rate.
Type	Defines the port.
PJVC-4 Mon#	Sets the VC that will be used for pointer justification. If set to 0, no VC is monitored. Only one VC can be monitored on each STM port.
ProvidesSync	If checked, the card is provisioned as an NE timing reference.
EnableSyncMsg	Enables synchronization status messages (S1 byte), which allow the node to choose the best timing source.
Send DoNotUse	When checked, sends a DNS (do not use) message on the S1 byte.
Admin State	Select the designation that drives whether an entity is in service or out of service. The Admin state is the driver for the Service state.

Table D-187   Field Descriptions for the Line Tab (continued)

Field	Description
Service State	Displays the service state: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped; there is nothing in the slot. • UAS—Unassigned; the entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic in service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE does not support the Service State, this field shows N/A.
AINS Soak	Automatic in-service soak. The determination of duration left before the traffic/termination transitions to IS state.
AINS Soak Count Down	Automatic in-service soak countdown. Displays the remaining time of valid input signal in *hh:mm*, after which the card becomes in service (IS) automatically.
MS-SPRing Ext. Byte	Select an alternate MS-SPRing byte.
Port	
Port Number	Displays the port number. **Note** The Port tab and fields apply only to release 5.0 and earlier NEs. This functionality does not apply to release 6.0 NEs.
Interface	Displays the SDH interface. **Note** The Port tab and fields apply only to release 5.0 and earlier NEs. This functionality does not apply to release 6.0 NEs.
RS Threshold 15 Minutes	
Port Number	The port number
ES-RS	Errored seconds–regenerator section
SEFS-RS	Severely errored framing seconds–regenerator section
EB-RS	Errored blocks–regenerator section
SES-RS	Severely errored seconds –regenerator section

Table D-187   Field Descriptions for the Line Tab (continued)

Field	Description
BBE-RS(FE)	Background block errors–regenerator section
UAS-RS	Unavailable seconds–regenerator section
OFS-RS	Out of framing seconds–regenerator section
RS Threshold 1 Day	
Port Number	The port number
ES-RS	Errored seconds–regenerator section
SEFS-RS	Severely errored framing seconds–regenerator section
EB-RS	Errored blocks–regenerator section
SES-RS	Severely errored seconds –regenerator section
BBE-RS(FE)	Background block errors–regenerator section
UAS-RS	Unavailable seconds–regenerator section
OFS-RS	Out of framing seconds–regenerator section
MS Threshold 15 Minutes	
Port Number	The port number
EB-MS(FE)	Errored blocks
BBE-MS	Background block errors
ES-MS(FE)	Errored seconds
SES-MS(FE)	Severely errored seconds
UAS-MS(FE)	Unavailable seconds
MS Threshold 1 Day	
Port Number	The port number
EB-MS(FE)	Errored blocks
BBE-MS	Background block errors
ES-MS(FE)	Errored seconds
SES-MS(FE)	Severely errored seconds
UAS-MS(FE)	Unavailable seconds

D.4.16.4 VC-4 Tab

The VC-4 tab allows you to view and update STM-1E-12 VC-4 information.

Table D-188   Field Descriptions for the VC-4 Tab

Field	Description
VC-4	
Displays the VC-4 number, the intermediate path protection monitoring (IPPM) status, and the XC loopback status.	
Threshold 15 Minutes	
VC Number	The VC number.

Table D-188   Field Descriptions for the VC-4 Tab (continued)

Field	Description
EB-HP	Errored block–higher order path.
BBE-HP	Background block errors–higher order path.
ES-HP	Errored seconds–higher order path.
SES-HP	Severely errored seconds–higher order path.
UAS-P	Unavailable seconds–higher order path.
Threshold 1 Day	
VC Number	The VC number.
EB-HP	Errored block–higher order path.
BBE-HP	Background block errors–higher order path.
ES-HP	Errored seconds–higher order path.
SES-HP	Severely errored seconds–higher order path.
UAS-P	Unavailable seconds–higher order path.
Customer Info	
VC Number	The VC number.
Customer ID	Displays the customer ID.
Service ID	Displays the service ID.
J1 Path Trace Table	
Displays the circuit J1 path trace information. Select a path trace and click **Modify** to open the J1 Path Trace window.	
Port Number	The port number.
STS Number	The STS number.
Expected String	The current expected string.
Received String	The current received string.
Mode	The path trace mode (Off/None, Auto, or Manual).
C2	Represents a machine-generated J1/J2 payload label byte.
Mismatched	Indicates whether there is a mismatch in the C2 byte received.

D.4.16.5 Loopback Tab

The Loopback tab allows you to view and update STM-1E-12 loopback information.

Table D-189   Field Descriptions for the Loopback Tab

Field	Description
Port Number	Displays the port number.
State	Displays the current loopback state.
Loopback Type	Allows you to configure a port to terminal loopback (Inward) or Facility (Line), or clear the current loopback (None).
	Note The line state must be OOS_MT before you can configure the loopback type.

D.4.16.6 Protection Tab

The Protection tab allows you to view and update STM-1E-12 protection group information.

Table D-190   Field Descriptions for the Protection Tab

Field	Description
Protection Groups	Displays a list of available protection groups.
Protection Group Details	Displays details about the selected protection group.

D.4.16.7 Alarm Behavior Tab

The Alarm Behavior tab allows you to view and update STM-1E-12 alarm profile information.

Table D-191   Field Descriptions for the Alarm Behavior Tab

Field	Description
Alarm Profile	Displays the alarm profile that has been configured for the card.
Suppress Alarms	If checked, indicates that all alarms are suppressed for the card.
Port Number	Displays the card port number.
Alarm Profile	Choose an alarm profile for the port from the drop-down list. Values are Default, Inherited, or a customized alarm profile.
Suppress Alarms	If checked, all alarms are suppressed for the port.
Alarm Profile	Choose an alarm profile for all ports.
Force to All Ports	When clicked, forces all the ports to the selected alarm profile.

D.4.16.8 J1 Path Trace Tab

The J1 Path Trace tab allows you to view and retrieve STM-1E-12 J1 path trace information.

Table D-192   Slot Properties for the J1 Path Trace

Field	Description
Port Number	Displays the port number.
VC Number	Displays the VC number.
Expected String	Displays the current expected string.
Received String	Displays the current received string.
Mode	Displays the path trace mode (Off/None, Auto, or Manual).
C2	Represents a machine-generated J1/J2 payload label byte.
Mismatch	Indicates whether there is a mismatch in the C2 byte received.
Vcat Mem Num	Displays the virtual concatenation (VCAT) member number.

> **Note** See Table 1-20 on page 1-44 for descriptions of actions that can be performed using the buttons at the bottom of the window.

D.4.17 Slot Properties—STM-16 (ONS 15454 SDH)

The Slot Properties pane displays information about the Cisco ONS 15454 SDH slot that is selected in the NE Explorer tree. Use this properties pane to change the module performance monitoring thresholds.

The OC48 IR/STM16 SH AS 1310 card provides one intermediate-range, ITU-T G.707, ITU-T G.957-compliant, SDH STM-16 port per card. The interface operates at 2.488 Gbps over a single-mode fiber span. The card supports concatenated or nonconcatenated payloads at STM-1, STM-4, or STM-16 signal levels on a per-VC-4 basis.

For the STM-16 module, the Slot Properties pane displays the following tabs: Module View, Identification, Line, VC-4, Loopback, Protection, Alarm Behavior, Auto Laser Shutdown, and J1 Path Trace.

D.4.17.1 Module View Tab

The Module View tab displays a graphic of the STM-16 that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Alarms are also displayed when you move the mouse pointer over the graphic.) The Suppress Alarms check box is read-only and indicates whether all alarms are suppressed for the card and its port(s). Right-clicking the graphic opens a shortcut menu that you can use to reset, delete, or change the card.

D.4.17.2 Identification Tab

The Identification tab allows you to view and update STM-16 identification information.

Table D-193   Field Descriptions for the Identification Tab

Field	Description
Equipment Type	Displays the equipment type the slot is provisioned for.
Actual Equipment Type	Displays the actual card that is installed in the slot.
HW Part Number	Displays the card part number that is printed on the top of the card.
Hardware Revision	Displays the hardware revision number.
Serial Number	Displays the card serial number that is unique to each card.
CLEI Code	Displays the CLEI code.
Firmware Version	Displays the revision number of the software used by the ASIC chip installed on the card.
Product ID	Displays a product ID string of 63 characters maximum. If the card does not support the product ID, the field shows N/A.
Version ID	Displays a version ID string in the format "V99_." The version ID always begins with a V and ends with a space. If the card does not support the version ID, the field shows N/A.
Equipment State	Displays the equipment state of the card.
Alarm Profile	Sets the alarm profile for the port. Check the **Suppress Alarms** check box to suppress all alarms for this card and its port(s).

D.4.17.3 Line Tab

The Line tab allows you to view and update STM-16 line performance monitoring information.

Table D-194   Field Descriptions for the Line Tab

Field	Description
Line Config	
Port Number	Displays the optical port number.
Port Name	Allows you to enter an optical port name.
SD BER	Sets the signal degrade bit error rate.
SF BER	Sets the signal fail bit error rate.
Type	Defines the port.
PJVC-4 Mon#	Sets the VC that will be used for pointer justification. If set to 0, no VC is monitored. Only one VC can be monitored on each STM port.
ProvidesSync	If checked, the card is provisioned as an NE timing reference.
EnableSyncMsg	Enables synchronization status messages (S1 byte), which allow the node to choose the best timing source.
Send DoNotUse	When checked, sends a DNS (do not use) message on the S1 byte.
Admin State	Select the designation that drives whether an entity is in service or out of service. The Admin state is the driver for the Service state.
Service State	Displays the service state: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped; there is nothing in the slot. • UAS—Unassigned; the entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic in service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE does not support the Service State, this field shows N/A.

Table D-194   Field Descriptions for the Line Tab (continued)

Field	Description
AINS Soak	Automatic in-service soak. The determination of duration left before the traffic/termination transitions to IS state.
AINS Soak Count Down	Automatic in-service soak countdown. Displays the remaining time of valid input signal in *hh:mm*, after which the card becomes in service (IS) automatically.
MS-SPRing Ext. Byte	Select an alternate MS-SPRing byte.
RS Threshold 15 Minutes	
Port Number	The port number
EB-RS	Errored block–regenerator section
BBE-RS	Background block errors–regenerator section
ES-RS	Errored seconds–regenerator section
SES-RS	Severely errored seconds–regenerator section
UAS-RS	Unavailable seconds–regenerator section
OFS-RS	Out of framing seconds–regenerator section
RS Threshold 1 Day	
Port Number	The port number
EB-RS	Errored block–regenerator section
BBE-RS	Background block errors–regenerator section
ES-RS	Errored seconds–regenerator section
SES-RS	Severely errored seconds–regenerator section
UAS-RS	Unavailable seconds–regenerator section
OFS-RS	Out of framing seconds–regenerator section
MS Threshold 15 Minutes	
Port Number	The port number
EB-MS	Errored block
BBE-MS	Background block errors
ES-MS	Errored seconds
SES-MS	Severely errored seconds
UAS-MS	Unavailable seconds
PPJC-PDET	Positive pointer justification count, path detected
NPJC-PDET	Negative pointer justification count, path detected
PPJC-PGEN	Positive pointer justification count, path generated
NPJC-PGEN	Negative pointer justification count, path generated
PSC	Protection switching counts
PSD	Protection switching duration
MS Threshold 1 Day	
Port Number	The port number

Table D-194   Field Descriptions for the Line Tab (continued)

Field	Description
EB-MS	Errored block
BBE-MS	Background block errors
ES-MS	Errored seconds
SES-MS	Severely errored seconds
UAS-MS	Unavailable seconds
PPJC-PDET	Positive pointer justification count, path detected
NPJC-PDET	Negative pointer justification count, path detected
PPJC-PGEN	Positive pointer justification count, path generated
NPJC-PGEN	Negative pointer justification count, path generated
PSC	Protection switching counts
PSD	Protection switching duration

D.4.17.4 VC-4 Tab

The VC-4 tab allows you to view and update STM-16 VC-4 information.

Table D-195   Field Descriptions for the VC-4 Tab

Field	Description
VC-4	
Displays the VC-4 number, the intermediate path protection monitoring (IPPM) status, and the XC loopback status.	
Threshold 15 Minutes	
VC Number	The VC number.
EB-HP	Errored block–higher order path.
BBE-HP	Background block errors–higher order path.
ES-HP	Errored seconds–higher order path.
SES-HP	Severely errored seconds–higher order path.
UAS-P	Unavailable seconds–higher order path.
Threshold 1 Day	
VC Number	The VC number.
EB-HP	Errored block–higher order path.
BBE-HP	Background block errors–higher order path.
ES-HP	Errored seconds–higher order path.
SES-HP	Severely errored seconds–higher order path.
UAS-P	Unavailable seconds–higher order path.
Customer Info	
VC Number	The VC number.

Table D-195   Field Descriptions for the VC-4 Tab (continued)

Field	Description
Customer ID	The user-defined customer ID number.
Service ID	The user-defined service ID number.

D.4.17.5 Loopback Tab

The Loopback tab allows you to view and update STM-16 loopback information.

Table D-196   Field Descriptions for the Loopback Tab

Field	Description
Port Number	Displays the port number.
State	Displays the current loopback state.
Loopback Type	Allows you to configure a port to terminal loopback (Inward) or Facility (Line), or clear the current loopback (None). **Note** The line state must be OOS_MT before you can configure the loopback type.

D.4.17.6 Protection Tab

The Protection tab allows you to view and update STM-16 protection group information.

Table D-197   Field Descriptions for the Protection Tab

Field	Description
Protection Groups	Displays a list of available protection groups.
Protection Group Details	Displays details about the selected protection group.

D.4.17.7 Alarm Behavior Tab

The Alarm Behavior tab allows you to view and update STM-16 alarm profile information.

Table D-198   Field Descriptions for the Alarm Behavior Tab

Field	Description
Alarm Profile	Displays the alarm profile that has been configured for the card.
Suppress Alarms	If checked, indicates that all alarms are suppressed for the card.
Port Number	Displays the card port number.
Alarm Profile	Choose an alarm profile for the port from the drop-down list. Values are Default, Inherited, or a customized alarm profile.
Suppress Alarms	If checked, all alarms are suppressed for the port.
Alarm Profile	Choose an alarm profile for all ports.
Force to All Ports	When clicked, forces all the ports to the selected alarm profile.

D.4.17.8 Auto Laser Shutdown Tab

The Auto Laser Shutdown tab allows you to view and update ALS parameters.

Table D-199   Field Descriptions for the Auto Laser Shutdown Tab

Field	Description
Port No.	Displays the port number.
ALS Mode	Displays the auto laser shutdown mode (Disabled, Auto Restart, Manual Restart, or Manual Restart for Test).
Rec. Pulse Dur. (sec)	Allows you to set the received laser pulse duration, in seconds. The range is 2.0 to 100.0 seconds.
Rec. Pulse Int. (sec)	Allows you to set the received laser pulse interval, in seconds. The range is 60 to 300 seconds.
Status	Displays the current laser status. Values are Shutdown or Not Shutdown.
Request Restart	If selected, it allows you to request a laser restart. This parameter is configurable only when the ALS mode is set to Manual Restart or Manual Restart for Test and when the laser status is Shut Down.

D.4.17.9 J1 Path Trace Tab

The J1 Path Trace tab allows you to view and retrieve STM-16 J1 path trace information.

Table D-200   Field Descriptions for the J1 Path Trace Tab

Field	Description
Port Number	Displays the port number.
VC Number	Displays the VC number.
Expected String	Displays the current expected string.
Received String	Displays the current received string.
Mode	Displays the path trace mode (Off/None, Auto, or Manual).
C2	Represents a machine-generated J1/J2 payload label byte.
Mismatch	Indicates whether there is a mismatch in the C2 byte received.
Vcat Mem Num	Displays the virtual concatenation (VCAT) member number.

Note   See Table 1-20 on page 1-44 for descriptions of actions that can be performed using the buttons at the bottom of the window.

D.4.18 Slot Properties—STM-16 (ONS 15600 SDH)

The Slot Properties pane displays information about the Cisco ONS 15600 SDH slot that is selected in the NE Explorer tree. Use this properties pane to change the module performance monitoring thresholds.

The STM-16 card provides 16 long-haul STM-16 ITU-T G.957 L-16.2 compliant signals. The ports operate at the ITU-T G.707 compliant 2488.32 Mbps rate over a single-mode fiber span. The card has four physical connector adapters with eight fibers per connector adapter. The card VC4 payloads and concatenated payloads at VC4, VC4-4c, VC4-8c, or VC4-16c signal levels.

For the STM-16 module, the Slot Properties pane displays the following tabs: Module View, Identification, Line, VC-4, Loopback, Transceiver, Protection, Alarm Behavior, and J1 Path Trace.

D.4.18.1 Module View Tab

The Module View tab displays a graphic of the STM16 that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Alarms are also displayed when you move the mouse pointer over the graphic.) The Suppress Alarms check box is read-only and indicates whether all alarms are suppressed for the card and its port(s). Right-clicking the graphic opens a shortcut menu that you can use to reset, delete, or change the card.

D.4.18.2 Identification Tab

The Identification tab allows you to view and update STM-16 identification information.

Table D-201   Field Descriptions for the Identification Tab

Field	Description
Equipment Type	Displays the equipment type the slot is provisioned for.
Actual Equipment Type	Displays the actual card that is installed in the slot.
Hardware Part Number	Displays the card part number that is printed on the top of the card.
Hardware Revision	Displays the hardware revision number.
Serial Number	Displays the card serial number that is unique to each card.
CLEI Code	Displays the CLEI code.
Firmware Version	Displays the revision number of the software used by the ASIC chip installed on the card.
User Code	Allows you to enter an ASCII string to identify the card. The user code is stored in nonvolatile memory so that it is not lost when the unit is moved or stored as a spare.
Product ID	Displays a product ID string of 63 characters maximum. If the card does not support the product ID, the field shows N/A.
Version ID	Displays a version ID string in the format "V99_." The version ID always begins with a V and ends with a space. If the card does not support the version ID, the field shows N/A.
Equipment State	Displays the equipment state of the card.
Alarm Profile	Sets the alarm profile for the port. Check the **Suppress Alarms** check box to suppress all alarms for this card and its port(s).

D.4.18.3 Line Tab

The Line tab allows you to view and update STM-16 line performance monitoring information.

Table D-202   Field Descriptions for the Line Tab

Field	Description
Line Config	
Port Number	Displays the optical port number.
Port Name	Allows you to enter an optical port name.

Table D-202   Field Descriptions for the Line Tab (continued)

Field	Description
SD BER	Sets the signal degrade bit error rate.
SF BER	Sets the signal fail bit error rate.
ProvidesSync	If checked, the card is provisioned as an NE timing reference.
EnableSyncMsg	Enables synchronization status messages (S1 byte), which allow the node to choose the best timing source.
Send DoNotUse	When checked, sends a DNS (do not use) message on the S1 byte.
Admin State	Select the designation that drives whether an entity is in service or out of service. The Admin state is the driver for the Service state.
Service State	Displays the service state: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped; there is nothing in the slot. • UAS—Unassigned; the entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic in service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE does not support the Service State, this field shows N/A.
Synchronization Status Message	SDH protocol that communicates information about the quality of the timing source.
MS-SPRing Ext. Byte	Select an alternate MS-SPRing byte.
Type	Defines the port.
MS Thresh 15 Min (Near End)	
Port Number	The port number
EB-MS	Errored block–multiplex section
ES-MS	Errored seconds–multiplex section
SES-MS	Severely errored seconds–multiplex section

Table D-202   Field Descriptions for the Line Tab (continued)

Field	Description
BBE-MS	Background block errors–multiplex section
UAS-MS	Unavailable seconds–multiplex section
PSC	Protection switching count
PSD	Protection switching duration
PSC-W	Protection switching count–working
PSD-W	Protection switching duration–working
MS Thresh 15 Min (Far End)	
Port Number	The port number
EB-MS	Errored block–multiplex section
ES-MS	Errored seconds–multiplex section
SES-MS	Severely errored seconds–multiplex section
BBE-MS	Background block errors–multiplex section
UAS-MS	Unavailable seconds–multiplex section
MS Thresh 1 Day (Near End)	
Port Number	The port number
EB-MS	Errored block–multiplex section
ES-MS	Errored seconds–multiplex section
SES-MS	Severely errored seconds–multiplex section
BBE-MS	Background block errors–multiplex section
UAS-MS	Unavailable seconds–multiplex section
PSC	Protection switching count
PSD	Protection switching duration
PSC-W	Protection switching count–working
PSD-W	Protection switching duration–working
MS Thresh 15 Min (Far End)	
Port Number	The port number
EB-MS	Errored block–multiplex section
ES-MS	Errored seconds–multiplex section
SES-MS	Severely errored seconds–multiplex section
BBE-MS	Background block errors–multiplex section
UAS-MS	Unavailable seconds–multiplex section
RS Thresh 15 Min (Near End)	
Port Number	The port number
EB-RS	Errored block–regenerator section
BBE-RS	Background block errors–regenerator section
ES-RS	Errored seconds–regenerator section

Table D-202   Field Descriptions for the Line Tab (continued)

Field	Description
SES-RS	Severely errored seconds–regenerator section
RS Thresh 1 Day (Near End)	
Port Number	The port number
EB-RS	Errored block–regenerator section
BBE-RS	Background block errors–regenerator section
ES-RS	Errored seconds–regenerator section
SES-RS	Severely errored seconds–regenerator section
Physical Thresh 15 Min	
Port Number	Port number
LBC-HIGH	High laser bias current threshold
LBC-LOW	Low laser bias current threshold
OPT-HIGH	High optical power transmitted threshold
OPT-LOW	Low optical power transmitted threshold
OPR-HIGH	High optical power received threshold
OPR-LOW	Low optical power received threshold
SET-OPR	Setting the optical power received (OPR)
Physical Thresh 1 Day	
Port Number	Port number
LBC-HIGH	High laser bias current threshold
LBC-LOW	Low laser bias current threshold
OPT-HIGH	High optical power transmitted threshold
OPT-LOW	Low optical power transmitted threshold
OPR-HIGH	High optical power received threshold
OPR-LOW	Low optical power received threshold
SET-OPR	Setting the optical power received (OPR)

D.4.18.4 VC-4 Tab

The VC-4 tab allows you to view and update STM-16 VC-4 information.

Table D-203   Field Descriptions for the VC-4 Tab

Field	Description
VC-4 Config	
VC-4 Number	Displays the VC-4 number, the intermediate path protection monitoring (IPPM) status, and the XC loopback status.
IPPM Enabled	Check to enable IPPM and uncheck to disable IPPM.
XC Loopback	Indicates cross-connect loopback.

Table D-203   Field Descriptions for the VC-4 Tab (continued)

Field	Description
Path Thresh 15 Min (Near End)	
VC Number	The VC number.
EB-HP	Errored block–higher order path.
BBE-HP	Background block errors–higher order path.
ES-HP	Errored seconds–higher order path.
SES-HP	Severely errored seconds–higher order path.
UAS-P	Unavailable seconds–higher order path.
PPJC-Pdet	Positive pointer justification count-VC4 path detected.
NPJC-Pdet	Negative pointer justification count-VC4 path detected.
PPJC-Pgen	Positive pointer justification count-VC4 path generated.
NPJC-Pgen	Negative pointer justification count-VC4 path generated.
Path Thresh 15 Min (Far End)	
VC Number	The VC number.
EB-HP	Errored block–higher order path.
BBE-HP	Background block errors–higher order path.
ES-HP	Errored seconds–higher order path.
SES-HP	Severely errored seconds–higher order path.
UAS-P	Unavailable seconds–higher order path.
Path Thresh 1 Day (Near End)	
VC Number	The VC number.
EB-HP	Errored block–higher order path.
BBE-HP	Background block errors–higher order path.
ES-HP	Errored seconds–higher order path.
SES-HP	Severely errored seconds–higher order path.
UAS-P	Unavailable seconds–higher order path.
PPJC-Pdet	Positive pointer justification count-VC4 path detected.
NPJC-Pdet	Negative pointer justification count-VC4 path detected.
PPJC-Pgen	Positive pointer justification count-VC4 path generated.
NPJC-Pgen	Negative pointer justification count-VC4 path generated.
Path Thresh 1 Day (Far End)	
VC Number	The VC number.
EB-HP	Errored block–higher order path.
BBE-HP	Background block errors–higher order path.
ES-HP	Errored seconds–higher order path.
SES-HP	Severely errored seconds–higher order path.
UAS-P	Unavailable seconds–higher order path.

Table D-203   Field Descriptions for the VC-4 Tab (continued)

Field	Description
Customer Info	
VC Number	The VC number.
Customer ID	The user-defined customer ID number.
Service ID	The user-defined service ID number.

D.4.18.5 Loopback Tab

The Loopback tab allows you to view and update STM-16 loopback information.

Table D-204   Field Descriptions for the Loopback Tab

Field	Description
Port Number	Displays the port number.
Admin State	Shows the administrative state of the port: In Service (IS), Out of Service–Disabled (OOS, DSBLD), or Out of Service–Maintenance (OOS_MT).
Loopback Type	Allows you to configure a port to terminal loopback (Inward) or Facility (Line), or clear the current loopback (None). **Note** The line state must be OOS_MT before you can configure the loopback type.
Service State	Overall availability of the entity. Values are: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped. There is nothing in the slot. • UAS—Unassigned. The entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic In Service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE release does not support the Service state, this field shows *N/A*.

D.4.18.6 Transceiver Tab

The Transceiver tab allows you to view and update STM-16 transceiver information.

Table D-205   Field Descriptions for the Transceiver Tab

Field	Description
Port No	Port No. Port number 1–14.
Non-normalized LBC (mA)	The actual operating value of laser bias current (in mA) for the specified card port.
Non-normalized OPT (dBm)	The actual operating value of optical power transmitted (in dBm) for the specified card port.
Non-normalized OPR (dBm)	The actual operating value of optical power received (in dBm) for the specified card port.

D.4.18.7 Protection Tab

The Protection tab allows you to view and update STM-16 protection group information.

Table D-206   Field Descriptions for the Protection Tab

Field	Description
Protection Groups	Displays a list of available protection groups.
Protection Group Details	Displays details about the selected protection group.

D.4.18.8 Alarm Behavior Tab

The Alarm Behavior tab allows you to view and update STM-16 alarm profile information.

Table D-207   Field Descriptions for the Alarm Behavior Tab

Field	Description
Alarm Profile	Displays the alarm profile that has been configured for the card.
Suppress Alarms	If checked, indicates that all alarms are suppressed for the card.
Port Number	Displays the card port number.
Alarm Profile	Choose an alarm profile for the port from the drop-down list. Values are Default, Inherited, or a customized alarm profile.
Suppress Alarms	If checked, all alarms are suppressed for the port.
Alarm Profile	Choose an alarm profile for all ports.
Force to All Ports	When clicked, forces all the ports to the selected alarm profile.

D.4.18.9 J1 Path Trace Tab

The J1 Path Trace tab allows you to view and retrieve STM-16 J1 path trace information.

Table D-208   Field Descriptions for the J1 Path Trace Tab

Column	Description
Port Number	Displays the port number.
VC Number	Displays the VC number.
Expected String	Displays the current expected string.
Received String	Displays the current received string.
Mode	Displays the path trace mode (Off/None, Auto, or Manual).
C2	Represents a machine-generated J1/J2 payload label byte.
Mismatch	Indicates whether there is a mismatch in the C2 byte received.
Vcat Mem Num	Displays the virtual concatenation (VCAT) member number.
Display	Click the **Display** button to view the circuit trace information. See 7.2.21.2 Viewing a J1 Path Trace from the NE Explorer, page 7-134 for more information.
Retrieve	Click the **Retrieve** button to retrieve J1 path trace information.

Note   See Table 1-20 on page 1-44 for descriptions of actions that can be performed using the buttons at the bottom of the window.

D.4.19 Slot Properties—STM-4 IR/STM4 SH 1310

The Slot Properties pane displays information about the Cisco ONS 15454 SDH slot that is selected in the NE Explorer tree. Use this properties pane to change the module performance monitoring thresholds.

The STM-4 IR/STM4 SH 1310 (STM4_1 and STM4_4) card provides one or four intermediate or short range, ITU-T G.707, ITU-T G.957-compliant, SDH STM-4 ports per card. The interface operates at 622.08 Mbps over a single-mode fiber span. The card supports concatenated or nonconcatenated payloads on a per-VC-4 basis.

For the STM-4 IR/STM4 SH 1310 card, the Slot Properties pane displays the following tabs: Module View, Identification, Line, VC-4, Loopback, Protection, Alarm Behavior, and J1 Path Trace.

D.4.19.1 Module View Tab

The Module View tab displays a graphic of the STM-4 IR/STM4 SH 1310 that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Alarms are also displayed when you move the mouse pointer over the graphic.) The Suppress Alarms check box is read-only and indicates whether all alarms are suppressed for the card and its port(s).

D.4.19.2 Identification Tab

The Identification tab allows you to view and update STM-4 IR/STM4 SH 1310 identification information.

Table D-209   Field Descriptions for the Identification Tab

Field	Description
Equipment Type	Displays the equipment type the slot is provisioned for.
Actual Equipment Type	Displays the actual card that is installed in the slot.
Part Number	Displays the card part number that is printed on the top of the card.
Hardware Revision	Displays the hardware revision number of the card.
Serial Number	Displays the card serial number that is unique to each card.
CLEI Code	Displays the CLEI code.
Firmware Version	Displays the revision number of the software used by the ASIC chip installed on the card.
Equipment State	Displays the equipment state of the card.
Alarm Profile	Sets the alarm profile for the port. Check the **Suppress Alarms** check box to suppress all alarms for this card and its port(s).

D.4.19.3 Line Tab

The Line tab allows you to view and update STM-4 IR/STM4 SH 1310 line performance monitoring information.

Table D-210   Field Descriptions for the Line Tab

Field	Description
Line Config	
Port Number	Displays the optical port number.
Port Name	Allows you to enter an optical port name.
SD BER	Sets the signal degrade bit error rate.
SF BER	Sets the signal fail bit error rate.
Type	Defines the port.
PJVC-4 Mon#	Sets the VC that will be used for pointer justification. If set to 0, no VC is monitored. Only one VC can be monitored on each STM port.
ProvidesSync	If checked, the card is provisioned as an NE timing reference.
EnableSyncMsg	Enables synchronization status messages (S1 byte), which allow the node to choose the best timing source.
Send DoNotUse	When checked, sends a DNS (do not use) message on the S1 byte.
Admin State	Select the designation that drives whether an entity is in service or out of service. The Admin state is the driver for the Service state.

Table D-210   Field Descriptions for the Line Tab (continued)

Field	Description
Service State	Displays the service state: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped; there is nothing in the slot. • UAS—Unassigned; the entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic in service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE does not support the Service State, this field shows N/A.
AINS Soak	Automatic in-service soak. The determination of duration left before the traffic/termination transitions to IS state.
AINS Soak Count Down	Automatic in-service soak countdown. Displays the remaining time of valid input signal in *hh:mm*, after which the card becomes in service (IS) automatically.
MS-SPRing Ext. Byte	Select an alternate MS-SPRing byte.
RS Threshold 15 Minutes	
Port Number	The port number
EB-RS	Errored blocks–regenerator section
BBE-RS	Background block errors–regenerator section
ES-RS	Errored seconds–regenerator section
SES-RS	Severely errored seconds–regenerator section
UAS-RS	Unavailable seconds–regenerator section
OFS-RS	Out of framing seconds–regenerator section
RS Threshold 1 Day	
Port Number	The port number
EB-RS	Errored blocks–regenerator section
BBE-RS	Background block errors–regenerator section

Table D-210   Field Descriptions for the Line Tab (continued)

Field	Description
ES-RS	Errored seconds–regenerator section
SES-RS	Severely errored seconds–regenerator section
UAS-RS	Unavailable seconds–regenerator section
OFS-RS	Out of framing seconds–regenerator section
MS Threshold 15 Minutes	
Port Number	The port number
EB-MS	Errored block
BBE-MS	Background block errors
ES-MS	Errored seconds
SES-MS	Severely errored seconds
UAS-MS	Unavailable seconds
PPJC-PDET	Positive pointer justification count, path detected
NPJC-PDET	Negative pointer justification count, path detected
PPJC-PGEN	Positive pointer justification count, path generated
NPJC-PGEN	Negative pointer justification count, path generated
PSC	Protection switching counts
PSD	Protection switching duration
PSC-W	Protection switching count—working
PSD-W	Protection switching duration—working
MS Threshold 1 Day	
Port Number	The port number
EB-MS	Errored block
BBE-MS	Background block errors
ES-MS	Errored seconds
SES-MS	Severely errored seconds
UAS-MS	Unavailable seconds
PPJC-PDET	Positive pointer justification count, path detected
NPJC-PDET	Negative pointer justification count, path detected
PPJC-PGEN	Positive pointer justification count, path generated
NPJC-PGEN	Negative pointer justification count, path generated
PSC	Protection switching counts
PSD	Protection switching duration
PSC-W	Protection switching count—working
PSD-W	Protection switching duration—working

D.4.19.4 VC-4 Tab

The VC-4 tab allows you to view and update STM-4 IR/STM4 SH 1310 VC-4 information.

Table D-211   Field Descriptions for the VC-4 Tab

Field	Description
VC-4	
Displays the VC-4 number, the intermediate path protection monitoring (IPPM) status, and the XC loopback status.	
Threshold 15 Minutes	
VC Number	The VC number.
EB-HP	Errored block–higher order path.
BBE-HP	Background block errors–higher order path.
ES-HP	Errored seconds–higher order path.
SES-HP	Severely errored seconds–higher order path.
UAS-P	Unavailable seconds–higher order path.
Threshold 1 Day	
VC Number	The VC number.
EB-HP	Errored block–higher order path.
BBE-HP	Background block errors–higher order path.
ES-HP	Errored seconds–higher order path.
SES-HP	Severely errored seconds–higher order path.
UAS-P	Unavailable seconds–higher order path.
Customer Info	
VC Number	The VC number.
Customer ID	Displays the customer ID.
Service ID	Displays the service ID.

D.4.19.5 Loopback Tab

The Loopback tab allows you to view and update STM-4 IR/STM4 SH 1310 loopback information.

Table D-212   Field Descriptions for the Loopback Tab

Field	Description
Port Number	Displays the port number.
State	Displays the current loopback state.
Loopback Type	Allows you to configure a port to terminal loopback (Inward) or clear the current loopback (none).

D.4.19.6 Protection Tab

The Protection tab allows you to view and update STM-4 IR/STM4 SH 1310 protection group information.

Table D-213   Field Descriptions for the Protection Tab

Field	Description
Protection Groups	Displays a list of available protection groups.
Protection Group Details	Displays details about the selected protection group.

D.4.19.7 Alarm Behavior Tab

The Alarm Behavior tab allows you to view and update STM-4 IR/STM4 SH 1310 alarm profile information.

Table D-214   Field Descriptions for the Alarm Behavior Tab

Field	Description
Parent Profile	Choose a global alarm profile for the card from the drop-down list.
Port Number	Displays the STM-4 port number.
Alarm Profile	Choose an alarm profile for the slot from the drop-down list.
Suppress Alarms	If checked, all alarms are suppressed for the port.
Force to All Ports	When clicked, forces all the ports to the selected alarm profile.

D.4.19.8 J1 Path Trace Tab

The J1 Path Trace tab allows you to view and retrieve STM-4 IR/STM4 SH 1310 J1 path trace information.

Table D-215   Field Descriptions for the J1 Path Trace Tab

Field	Description
Port Number	Displays the port number.
STS Number	Displays the STS number.
Expected String	Displays the current expected string.
Received String	Displays the current received string.
Mode	Displays the path trace mode (Off/None, Auto, or Manual).
C2	Represents a machine-generated J1/J2 payload label byte.
Mismatch	Indicates whether there is a mismatch in the C2 byte received.

✎ **Note**   See Table 1-20 on page 1-44 for descriptions of actions that can be performed using the buttons at the bottom of the window.

D.4.20 Slot Properties—STM-4 L4.2-2-LC (ONS 15305 CTC)

This is a dual-port STM4 module for long-haul transmission at 1550 nm optical wavelength. The main functions of the module are O/E-E/O conversion and SDH multi/demultiplexing with VC-12, VC-3, and VC-4 granularity. A module diagram is shown in the following figure.

Figure D-6   STM-4 L4.2-2-LC Module
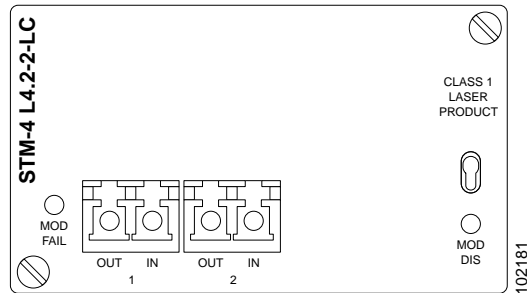
The Slot Properties pane displays information about the Cisco ONS 15305 CTC slot that is selected in the NE Explorer tree. Use this properties pane to change the module performance monitoring thresholds.

For the L4.2-2-LC module, the Slot Properties pane displays the following tabs: Module View, Identification, STM Line, VC-4 Config and Loopback.

D.4.20.1 Module View Tab

The Module View tab displays a graphic of the L4.2-2-LC that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Alarms are also displayed when you move the mouse pointer over the graphic.) The Suppress Alarms check box is read-only and indicates whether all alarms are suppressed for the card and its port(s). Right-clicking the graphic opens a shortcut menu that you can use to add, delete, change, or reset the module.

D.4.20.2 Identification Tab

The Identification tab allows you to view and update L4.2-2-LC identification information.

Table D-216   Field Descriptions for the Identification Tab

Field	Description
Equipment Type	Displays the equipment type the slot is provisioned for.
Actual Equipment Type	Displays the actual card that is installed in the slot.
HW Part Number	Displays the card part number that is printed on the top of the card.
Hardware Revision	Displays the hardware version number.
Serial Number	Displays the card serial number that is unique to each card.
CLEI Code	Displays the CLEI code.
Firmware Version	Displays the hardware revision number of the software used by the ASIC chip installed on the card.
Product ID	Displays a product ID string of 63 characters maximum. If the card does not support the product ID, the field shows N/A.

Table D-216   Field Descriptions for the Identification Tab (continued)

Field	Description
Version ID	Displays a version ID string in the format "V99_." The version ID always begins with a V and ends with a space. If the card does not support the version ID, the field shows N/A.
Equipment State	Displays the equipment state of the card.
Alarm Profile	Displays the alarm profile for the port.

D.4.20.3 STM Line Tab

The STM Line tab allows you to view and update L4.2-2-LC optical line performance monitoring information.

Table D-217   Field Descriptions for the STM Line Tab

Field	Description
Port Number	Displays the optical port number.
Port Name	Allows you to enter an optical port name.
ProvidesSync	If checked, the card is provisioned as an NE timing reference.
EnableSyncMsg	Enables synchronization status messages (S1 byte), which allow the node to choose the best timing source.
Send DoNotUse	When checked, sends a DNS (do not use) message on the S1 byte.
Admin State	Shows the administrative state of the port: In Service (IS) or Out of Service (OOS).

D.4.20.4 VC-4 Config Tab

The VC-4 Config tab allows you to view and update L4.2-2-LC VC-4 information.

Table D-218   Field Descriptions for the VC-4 Config Tab

Field	Description
VC Number	Displays the VC number.
IPPM Enabled	Check to enable intermediate path performance monitoring (IPPM) and uncheck to disable IPPM.
XC Loopback	Indicates cross-connect loopback.

D.4.20.5 Loopback Tab

The Loopback tab allows you to view and update L4.2-2-LC loopback information.

Table D-219   Field Descriptions for the Loopback Tab

Field	Description
Port Number	Displays the port number.

Table D-219   Field Descriptions for the Loopback Tab (continued)

Field	Description
Admin State	Displays the current loopback state.
Loopback Type	Allows you to configure a port to terminal loopback (Inward) or Facility (Line), or clear the current loopback (None). **Note** The line state must be OOS_MT before you can configure the loopback type.

Note

D.4.21 Slot Properties—STM-16 L16.2-1-LC (ONS 15305 CTC)

This is an STM16 long-haul module for transmission at 1550 nm optical wavelength. The main functions of the module are O/E- E/O conversion and SDH multi/demultiplexing with VC-12, VC-3 and VC-4 granularity.

A module diagram is shown in the following figure.

Figure D-7   STM-16 L16.2-1-LC Module
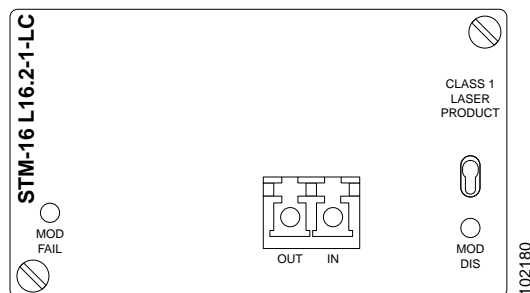
The Slot Properties pane displays information about the Cisco ONS 15305 CTC slot that is selected in the NE Explorer tree. Use this properties pane to change the module performance monitoring thresholds.

For the L16.2-1-LC module, the Slot Properties pane displays the following tabs: Module View, Identification, STM Line, VC-4 Config and Loopback.

D.4.21.1 Module View Tab

The Module View tab displays a graphic of the L16.2-1-LC that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Alarms are also displayed when you move the mouse pointer over the graphic.) The Suppress Alarms check box is read-only and indicates whether all alarms are suppressed for the card and its port(s). Right-clicking the graphic opens a shortcut menu that you can use to add, delete, change, or reset the module.

D.4.21.2 Identification Tab

The Identification tab allows you to view and update L16.2-1-LC identification information.

Table D-220   Field Descriptions for the Identification Tab

Field	Description
Equipment Type	Displays the equipment type the slot is provisioned for.
Actual Equipment Type	Displays the actual card that is installed in the slot.
HW Part Number	Displays the card part number that is printed on the top of the card.
Hardware Revision	Displays the hardware version number.
Serial Number	Displays the card serial number that is unique to each card.
CLEI Code	Displays the CLEI code.
Firmware Version	Displays the hardware revision number of the software used by the ASIC chip installed on the card.
Product ID	Displays a product ID string of 63 characters maximum. If the card does not support the product ID, the field shows N/A.
Version ID	Displays a version ID string in the format "V99_." The version ID always begins with a V and ends with a space. If the card does not support the version ID, the field shows N/A.
Equipment State	Displays the equipment state of the card.
Alarm Profile	Displays the alarm profile for the port.

D.4.21.3 STM Line Tab

The STM Line tab allows you to view and update L16.2-1-LC optical line performance monitoring information.

Table D-221   Field Descriptions for the STM Line Tab

Field	Description
Port Number	Displays the optical port number.
Port Name	Allows you to enter an optical port name.
ProvidesSync	If checked, the card is provisioned as an NE timing reference.
EnableSyncMsg	Enables synchronization status messages (S1 byte), which allow the node to choose the best timing source.
Send DoNotUse	When checked, sends a DNS (do not use) message on the S1 byte.
Admin State	Shows the administrative state of the port: In Service (IS) or Out of Service (OOS).

D.4.21.4 VC-4 Config Tab

The VC-4 Config tab allows you to view and update L16.2-1-LC VC-4 configuration information.

Table D-222   Field Descriptions for the VC-4 Config Tab

Field	Description
VC Number	Displays the VC number.
IPPM Enabled	Check to enable intermediate path performance monitoring (IPPM) and uncheck to disable IPPM.
XC Loopback	Indicates cross-connect loopback.

D.4.21.5 Loopback Tab

The Loopback tab allows you to view and update L16.2-1-LC loopback information.

Table D-223   Field Descriptions for the Loopback Tab

Field	Description
Port Number	Displays the port number.
Admin State	Displays the current loopback state.
Loopback Type	Allows you to configure a port to terminal loopback (Inward) or Facility (Line), or clear the current loopback (None). **Note** The line state must be OOS_MT before you can configure the loopback type.

Note   See Table 1-20 on page 1-44 for descriptions of actions that can be performed using the buttons at the bottom of the window.

D.4.22 Slot Properties—STM-64 LH 1550 (ONS 15454 SDH)

The Slot Properties pane displays information about the Cisco ONS 15454 SDH slot that is selected in the NE Explorer tree. Use this properties pane to change the module performance monitoring thresholds.

The STM-64 LH 1550 card provides one long-range SONET/SDH STM64 port compliant with the International Telecommunication Union (ITU-T) G.707, ITU-T G.957, Telcordia GR-1377-CORE, and Telcordia GR-253-CORE. The card port operates at 9.96 Gbps over unamplified distances up to 80 km when using fiber such as C-SMF or dispersion compensated fiber limited by loss and/or dispersion. The card supports VT and nonconcatenated or concatenated payloads.

For the STM-64 LH 1550 module, the Slot Properties pane displays the following tabs: Module View, Identification, Line, VC-4, Loopback, Protection, Alarm Behavior, Auto Laser Shutdown, and J1 Path Trace.

D.4.22.1 Module View Tab

The Module View tab displays a graphic of the STM-64 LH 1550 that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Alarms are also displayed when you move the mouse pointer over the graphic.) The Suppress Alarms check box is read-only and indicates whether all alarms are suppressed for the card and its port(s).

D.4.22.2 Identification Tab

The Identification tab allows you to view and update STM-64 LH 1550 identification information.

Table D-224   Field Descriptions for the Identification Tab

Field	Description
Equipment Type	Displays the equipment type the slot is provisioned for.
Actual Equipment Type	Displays the actual card that is installed in the slot.

Table D-224   Field Descriptions for the Identification Tab (continued)

Field	Description
Part Number	Displays the card part number that is printed on the top of the card.
Hardware Revision	Displays the hardware revision number of the card.
Serial Number	Displays the card serial number that is unique to each card.
CLEI Code	Displays the CLEI code.
Firmware Version	Displays the revision number of the software used by the ASIC chip installed on the card.
Equipment State	Displays the equipment state of the card.
Alarm Profile	Sets the alarm profile for the port. Check the **Suppress Alarms** check box to suppress all alarms for this card and its port(s).

D.4.22.3 Line

The Line tab allows you to view and update STM-64 LH 1550 line performance monitoring information.

Table D-225   Field Descriptions for the Line Tab

Field	Description
Line Config	
Port Number	Displays the optical port number.
Port Name	Allows you to enter an optical port name.
SD BER	Sets the signal degrade bit error rate.
SF BER	Sets the signal fail bit error rate.
Type	Defines the port.
PJVC-4 Mon#	Sets the VC that will be used for pointer justification. If set to 0, no VC is monitored. Only one VC can be monitored on each STM port.
ProvidesSync	If checked, the card is provisioned as an NE timing reference.
EnableSyncMsg	Enables synchronization status messages (S1 byte), which allow the node to choose the best timing source.
Send DoNotUse	When checked, sends a DNS (do not use) message on the S1 byte.
Admin State	Select the designation that drives whether an entity is in service or out of service. The Admin state is the driver for the Service state.

Table D-225   Field Descriptions for the Line Tab (continued)

Field	Description
Service State	Displays the service state: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped; there is nothing in the slot. • UAS—Unassigned; the entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic in service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE does not support the Service State, this field shows N/A.
AINS Soak	Automatic in-service soak. The determination of duration left before the traffic/termination transitions to IS state.
AINS Soak Count Down	Automatic in-service soak countdown. Displays the remaining time of valid input signal in *hh:mm*, after which the card becomes in service (IS) automatically.
MS-SPRing Ext. Byte	Select an alternate MS-SPRing byte.
RS Threshold 15 Minutes	
Port Number	The port number.
EB-RS	Errored blocks–regenerator section.
BBE-RS	Background block errors–regenerator section.
ES-RS	Errored seconds–regenerator section.
SES-RS	Severely errored seconds–regenerator section.
UAS-RS	Unavailable seconds–regenerator section.
OFS-RS	Out of framing seconds–regenerator section.
RS Threshold 1 Day	
Port Number	The port number.
EB-RS	Errored blocks–regenerator section.
BBE-RS	Background block errors–regenerator section.

Table D-225   Field Descriptions for the Line Tab (continued)

Field	Description
ES-RS	Errored seconds–regenerator section.
SES-RS	Severely errored seconds–regenerator section.
UAS-RS	Unavailable seconds–regenerator section.
OFS-RS	Out of framing seconds–regenerator section.
MS Threshold 15 Minutes	
Port Number	The port number.
EB-MS	Errored blocks.
BBE-MS	Background block errors.
ES-MS	Errored seconds.
SES-MS	Severely errored seconds.
UAS-MS	Unavailable seconds.
PPJC-PDET	Positive pointer justification count, path detected.
NPJC-PDET	Negative pointer justification count, path detected.
PPJC-PGEN	Positive pointer justification count, path generated.
NPJC-PGEN	Negative pointer justification count, path generated.
PSC	Protection switching counts.
PSD	Protection switching duration.
MS Threshold 1 Day	
Port Number	The port number.
EB-MS	Errored blocks.
BBE-MS	Background block errors.
ES-MS	Errored seconds.
SES-MS	Severely errored seconds.
UAS-MS	Unavailable seconds.
PPJC-PDET	Positive pointer justification count, path detected.
NPJC-PDET	Negative pointer justification count, path detected.
PPJC-PGEN	Positive pointer justification count, path generated.
NPJC-PGEN	Negative pointer justification count, path generated.
PSC	Protection switching counts.
PSD	Protection switching duration.

D.4.22.4 VC-4 Tab

The VC-4 tab allows you to view and update STM-64 LH 1550 VC-4 information.

Table D-226   Field Descriptions for the VC-4 Tab

Field	Description
VC-4	
Displays the VC-4 number, the intermediate path protection monitoring (IPPM) status, and the XC loopback status. The XC Loopback field only appears on the ONS 15454 SDH R4.0.	
Path Threshold 15 Minutes	
VC Number	The VC number.
EB-HP	Errored blocks–higher order path.
BBE-HP	Background block errors–higher order path.
ES-HP	Errored seconds–higher order path.
SES-HP	Severely errored seconds–higher order path.
UAS-P	Unavailable seconds–higher order path.
Path Threshold 1 Day	
VC Number	The VC number.
EB-HP	Errored blocks–higher order path.
BBE-HP	Background block errors–higher order path.
ES-HP	Errored seconds–higher order path.
SES-HP	Severely errored seconds–higher order path.
UAS-P	Unavailable seconds–higher order path.

D.4.22.5 Loopback Tab

The Loopback tab allows you to view and update STM-64 LH 1550 loopback information.

Table D-227   Field Descriptions for the Loopback Tab

Field	Description
Port Number	Displays the port number.
State	Displays the current loopback state.
Loopback Type	Allows you to configure a port to terminal loopback (Inward) or clear the current loopback (none).

D.4.22.6 Protection Tab

The Protection tab allows you to view and update STM-64 LH 1550 protection group information.

Table D-228   Field Descriptions for the Protection Tab

Field	Description
Protection Groups	Displays a list of available protection groups.
Protection Group Details	Displays details about the selected protection group.

D.4.22.7 Alarm Behavior Tab

The Alarm Behavior tab allows you to view and update STM-64 LH 1550 alarm profile information.

Table D-229   Field Descriptions for the Alarm Behavior Tab

Field	Description
Alarm Profile	Displays the alarm profile that has been configured for the card.
Suppress Alarms	If checked, indicates that all alarms are suppressed for the card.
Port Number	Displays the card port number.
Alarm Profile	Choose an alarm profile for the port from the drop-down list. Values are Default, Inherited, or a customized alarm profile.
Suppress Alarms	If checked, all alarms are suppressed for the port.
Alarm Profile	Choose an alarm profile for all ports.
Force to All Ports	When clicked, forces all the ports to the selected alarm profile.

D.4.22.8 Auto Laser Shutdown Tab

The Auto Laser Shutdown tab allows you to view and update STM-64 LH 1550 ALS parameters.

Table D-230   Field Descriptions for the Auto Laser Shutdown Tab

Field	Description
Port No.	Displays the port number.
ALS Mode	Displays the auto laser shutdown mode (Disabled, Auto Restart, Manual Restart, or Manual Restart for Test).
Rec. Pulse Dur. (sec)	Allows you to set the received laser pulse duration, in seconds. The range is 2.0 to 100.0 seconds.
Rec. Pulse Int. (sec)	Allows you to set the received laser pulse interval, in seconds. The range is 60 to 300 seconds.
Status	Displays the current laser status. Values are Shutdown or Not Shutdown.
Request Restart	If selected, it allows you to request a laser restart. This parameter is configurable only when the ALS mode is set to Manual Restart or Manual Restart for Test and when the laser status is Shut Down.

D.4.22.9 J1 Path Trace Tab

The J1 Path Trace tab allows you to view and retrieve STM-64 LH 1550 J1 path trace information.

Table D-231   Field Descriptions for the J1 Path Trace Tab

Field	Description
Port Number	Displays the port number.
STS Number	Displays the STS number.
Expected String	Displays the current expected string.
Received String	Displays the current received string.
Mode	Displays the path trace mode (Off/None, Auto, or Manual).
C2	Represents a machine-generated J1/J2 payload label byte.
Mismatch	Indicates whether there is a mismatch in the C2 byte received.

Note   See Table 1-20 on page 1-44 for descriptions of actions that can be performed using the buttons at the bottom of the window.

D.4.23 Slot Properties—STM-64 LR/LH 4 (ONS 15600 SDH)

The Slot Properties pane displays information about the Cisco ONS 15600 SDH slot that is selected in the NE Explorer tree. Use this properties pane to change the module performance monitoring thresholds.

The STM-64 LR/LH 4 port 1550 card provides 4 long-haul STM-64 ITU-T G.9691 L-64.2c compliant signals. The ports operate at the ITU-T G.707 compliant 9953.28 Mbps rate over a single-mode fiber span. The card has four physical connector adapters with 2 fibers per connector adapter. The card VC4 payloads and concatenated payloads at VC4, VC4-4c, VC4-8c, VC4-16c, or VC-64c signal levels.

For the STM-64 LR/LH 4 module, the Slot Properties pane displays the following tabs: Module View, Identification, Line, VC-4, Loopback, Transceiver, Protection, Alarm Behavior, and J1 Path Trace.

D.4.23.1 Module View Tab

The Module View tab displays a graphic of the STM-64 LR/LH 4 that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Alarms are also displayed when you move the mouse pointer over the graphic.) The Suppress Alarms check box is read-only and indicates whether all alarms are suppressed for the card and its port(s). Right-clicking the graphic opens a shortcut menu that you can use to reset, delete, or change the card.

D.4.23.2 Identification Tab

The Identification tab allows you to view and update STM-64 LR/LH 4 identification information.

Table D-232   Field Descriptions for the Identification Tab

Field	Description
Equipment Type	Displays the equipment type the slot is provisioned for.
Actual Equipment Type	Displays the actual card that is installed in the slot.
HW Part Number	Displays the card part number that is printed on the top of the card.
Hardware Revision	Displays the hardware revision number.
Serial Number	Displays the card serial number that is unique to each card.
CLEI Code	Displays the CLEI code.
Firmware Version	Displays the revision number of the software used by the ASIC chip installed on the card.
User Code	Allows you to enter an ASCII string to identify the card. The user code is stored in nonvolatile memory so that it is not lost when the unit is moved or stored as a spare.
Product ID	Displays a product ID string of 63 characters maximum. If the card does not support the product ID, the field shows N/A.
Version ID	Displays a version ID string in the format "V99_." The version ID always begins with a V and ends with a space. If the card does not support the version ID, the field shows N/A.
Equipment State	Displays the equipment state of the card.
Alarm Profile	Sets the alarm profile for the port. Check the **Suppress Alarms** check box to suppress all alarms for this card and its port(s).

D.4.23.3 Line Tab

The Line tab allows you to view and update STM-64 LR/LH 4 line performance monitoring information.

Table D-233   Field Descriptions for the Line Tab

Field	Description
Line Config	
Port Number	Displays the optical port number.
Port Name	Allows you to enter an optical port name.
SD BER	Sets the signal degrade bit error rate.
SF BER	Sets the signal fail bit error rate.
ProvidesSync	If checked, the card is provisioned as an NE timing reference.
EnableSyncMsg	Enables synchronization status messages (S1 byte), which allow the node to choose the best timing source.
Send DoNotUse	When checked, sends a DNS (do not use) message on the S1 byte.
Admin State	Select the designation that drives whether an entity is in service or out of service. The Admin state is the driver for the Service state.

Table D-233   Field Descriptions for the Line Tab (continued)

Field	Description
Service State	Displays the service state: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped; there is nothing in the slot. • UAS—Unassigned; the entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic in service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE does not support the Service State, this field shows N/A.
Synchronization Status Message	SDH protocol that communicates information about the quality of the timing source.
MS-SPRing Ext. Byte	Select an alternate MS-SPRing byte.
Type	Defines the port.
MS Thresh 15 Min (Near End)	
Port Number	The port number
EB-MS	Errored block–multiplex section
ES-MS	Errored seconds–multiplex section
SES-MS	Severely errored seconds–multiplex section
BBE-MS	Background block errors–multiplex section
UAS-MS	Unavailable seconds–multiplex section
PSC	Protection switching count
PSD	Protection switching duration
PSC-W	Protection switching count–working
PSD-W	Protection switching duration–working
MS Thresh 15 Min (Far End)	
Port Number	The port number

Table D-233   Field Descriptions for the Line Tab (continued)

Field	Description
EB-MS	Errored block–multiplex section
ES-MS	Errored seconds–multiplex section
SES-MS	Severely errored seconds–multiplex section
BBE-MS	Background block errors–multiplex section
UAS-MS	Unavailable seconds–multiplex section
MS Thresh 1 Day (Near End)	
Port Number	The port number
EB-MS	Errored block–multiplex section
ES-MS	Errored seconds–multiplex section
SES-MS	Severely errored seconds–multiplex section
BBE-MS	Background block errors–multiplex section
UAS-MS	Unavailable seconds–multiplex section
PSC	Protection switching count
PSD	Protection switching duration
PSC-W	Protection switching count–working
PSD-W	Protection switching duration–working
MS Thresh 15 Min (Far End)	
Port Number	The port number
EB-MS	Errored block–multiplex section
ES-MS	Errored seconds–multiplex section
SES-MS	Severely errored seconds–multiplex section
BBE-MS	Background block errors–multiplex section
UAS-MS	Unavailable seconds–multiplex section
RS Thresh 15 Min (Near End)	
Port Number	The port number
EB-RS	Errored block–regenerator section
BBE-RS	Background block errors–regenerator section
ES-RS	Errored seconds–regenerator section
SES-RS	Severely errored seconds–regenerator section
RS Thresh 1 Day (Near End)	
Port Number	The port number
EB-RS	Errored block–regenerator section
BBE-RS	Background block errors–regenerator section
ES-RS	Errored seconds–regenerator section
SES-RS	Severely errored seconds–regenerator section
Physical Thresh 15 Min	

Table D-233   Field Descriptions for the Line Tab (continued)

Field	Description
Port Number	Port number
LBC-HIGH	High laser bias current threshold
LBC-LOW	Low laser bias current threshold
OPT-HIGH	High optical power transmitted threshold
OPT-LOW	Low optical power transmitted threshold
OPR-HIGH	High optical power received threshold
OPR-LOW	Low optical power received threshold
SET-OPR	Setting the optical power received (OPR)
Physical Thresh 1 Day	
Port Number	Port number
LBC-HIGH	High laser bias current threshold
LBC-LOW	Low laser bias current threshold
OPT-HIGH	High optical power transmitted threshold
OPT-LOW	Low optical power transmitted threshold
OPR-HIGH	High optical power received threshold
OPR-LOW	Low optical power received threshold
SET-OPR	Setting the optical power received (OPR)

D.4.23.4 VC-4 Tab

The VC-4 tab allows you to view and update STM-64 LR/LH 4 VC-4 information.

Table D-234   Field Descriptions for the VC-4 Tab

Field	Description
VC-4 Config	
Displays the VC-4 number, the intermediate path protection monitoring (IPPM) status, and the XC loopback status.	
Path Thresh 15 Min (Near End)	
VC Number	The VC number.
EB-HP	Errored block–higher order path.
BBE-HP	Background block errors–higher order path.
ES-HP	Errored seconds–higher order path.
SES-HP	Severely errored seconds–higher order path.
UAS-P	Unavailable seconds–higher order path.
PPJC-Pdet	Positive pointer justification count-VC4 path detected.
NPJC-Pdet	Negative pointer justification count-VC4 path detected.
PPJC-Pgen	Positive pointer justification count-VC4 path generated.
NPJC-Pgen	Negative pointer justification count-VC4 path generated.

Table D-234   Field Descriptions for the VC-4 Tab (continued)

Field	Description
Path Thresh 15 Min (Far End)	
VC Number	The VC number.
EB-HP	Errored block–higher order path.
BBE-HP	Background block errors–higher order path.
ES-HP	Errored seconds–higher order path.
SES-HP	Severely errored seconds–higher order path.
UAS-P	Unavailable seconds–higher order path.
Path Thresh 1 Day (Near End)	
VC Number	The VC number.
EB-HP	Errored block–higher order path.
BBE-HP	Background block errors–higher order path.
ES-HP	Errored seconds–higher order path.
SES-HP	Severely errored seconds–higher order path.
UAS-P	Unavailable seconds–higher order path.
PPJC-Pdet	Positive pointer justification count-VC4 path detected.
NPJC-Pdet	Negative pointer justification count-VC4 path detected.
PPJC-Pgen	Positive pointer justification count-VC4 path generated.
NPJC-Pgen	Negative pointer justification count-VC4 path generated.
Path Thresh 1 Day (Far End)	
VC Number	The VC number.
EB-HP	Errored block–higher order path.
BBE-HP	Background block errors–higher order path.
ES-HP	Errored seconds–higher order path.
SES-HP	Severely errored seconds–higher order path.
UAS-P	Unavailable seconds–higher order path.
Customer Info	
VC Number	The VC number.
Customer ID	The user-defined customer ID number.
Service ID	The user-defined service ID number.

D.4.23.5 Loopback Tab

The Loopback tab allows you to view and update STM-64 LR/LH 4 loopback information.

Table D-235   Field Descriptions for the Loopback Tab

Field	Description
Port Number	Displays the port number.
Admin State	Shows the administrative state of the port: In Service (IS), Out of Service–Disabled (OOS, DSBLD), or Out of Service–Maintenance (OOS_MT).
Loopback Type	Allows you to configure a port to terminal loopback (Inward) or Facility (Line), or clear the current loopback (None). **Note** The line state must be OOS_MT before you can configure the loopback type.
Service State	Overall availability of the entity. Values are: • IS_NR—In Service–Normal. • OOS_AU—Out of Service–Autonomous. • OOS_MA—Out of Service–Management. • OOS_AUMA—Out of Service–Autonomous and Management. In addition, a secondary state provides additional information about the status of the entity. Values for secondary state are: • MEA—Mismatch of equipment due to invalid equipment insertion. • UEQ—Unequipped. There is nothing in the slot. • UAS—Unassigned. The entity does not exist, has not been created, or has been deleted. • SWDL—Software download in progress. • MT—Maintenance, as per the Admin State change. • AINS—Automatic In Service. • DSBLD—Traffic is disabled on the entity. • LPBK—Port or connection has a loopback on it. • FLT—Fault secondary state. When an entity is faulted, an FLT state is raised. Equipment and ports in FLT state should be cleared as they transition. Transition states are listed in Table 11-10 on page 11-15. See Table 11-10 on page 11-15 for the Service state/Secondary state possible values. **Note** If the NE release does not support the Service state, this field shows *N/A*.

D.4.23.6 Transceiver Tab

The Transceiver tab allows you to view and update STM-64 LR/LH 4 transceiver information.

Table D-236   Field Descriptions for the Transceiver Tab

Field	Description
Port No.	Port No. Port number 1–14.
Non-normalized LBC (mA)	The actual operating value of laser bias current (in mA) for the specified card port.
Non-normalized OPT (dBm)	The actual operating value of optical power transmitted (in dBm) for the specified card port.
Non-normalized OPR (dBm)	The actual operating value of optical power received (in dBm) for the specified card port.

D.4.23.7 Protection Tab

The Protection tab allows you to view and update STM-64 LR/LH 4 protection group information.

Table D-237   Field Descriptions for the Protection Tab

Field	Description
Protection Groups	Displays a list of available protection groups.
Protection Group Details	Displays details about the selected protection group.

D.4.23.8 Alarm Behavior Tab

The Alarm Behavior tab allows you to view and update STM-64 LR/LH 4 alarm profile information.

Table D-238   Field Descriptions for the Alarm Behavior Tab

Field	Description
Alarm Profile	Displays the alarm profile that has been configured for the card.
Suppress Alarms	If checked, indicates that all alarms are suppressed for the card.
Port Number	Displays the card port number.
Alarm Profile	Choose an alarm profile for the port from the drop-down list. Values are Default, Inherited, or a customized alarm profile.
Suppress Alarms	If checked, all alarms are suppressed for the port.
Alarm Profile	Choose an alarm profile for all ports.
Force to All Ports	When clicked, forces all the ports to the selected alarm profile.

D.4.23.9 J1 Path Trace Tab

The J1 Path Trace tab allows you to view and retrieve STM-64 LR/LH 4 J1 path trace information.

Table D-239   Field Descriptions for the J1 Path Trace Tab

Column	Description
Port Number	Displays the port number.
VC Number	Displays the VC number.
Expected String	Displays the current expected string.
Received String	Displays the current received string.
Mode	Displays the path trace mode (Off/None, Auto, or Manual).
C2	Represents a machine-generated J1/J2 payload label byte.
Mismatch	Indicates whether there is a mismatch in the C2 byte received.
Vcat Mem Num	Displays the virtual concatenation (VCAT) member number.
Display	Click the **Display** button to view the circuit trace information. See 7.2.21.2 Viewing a J1 Path Trace from the NE Explorer, page 7-134 for more information.
Retrieve	Click the **Retrieve** button to retrieve J1 path trace information.

Note   See Table 1-20 on page 1-44 for descriptions of actions that can be performed using the buttons at the bottom of the window.

D.5 Transponder Cards

This section describes the following transponder cards supported within CTM:

D.5.1 Slot Properties—BT10E-LCxx and BT10E-LLxx

The Slot Properties pane displays information about the Cisco ONS 15808 module that is installed in the slot selected in the NE Explorer tree. Use this properties pane to change the module performance monitoring thresholds.

The bidirectional line transponder (BT10E-LCxx and BT10E-LLxx) performs a rate adaptation between the 10 GE client interface (10.312 Gbps) and the FEC payload rate (9.9532 Gbps). The BT10E-LCxx and BT10E-LLxx support a constant flow of maximum Ethernet packet length (1518 bytes) with a minimum average IPG =10.5. BT10E cards can support jumbo frames with a maximum packet length of 12000 bytes.

The Slot Properties pane displays the following tabs: Module View, Identification, Transmit Direction, Receive Direction, and Action.

■ **Transponder Cards**

D.5.1.1 Module View Tab

The Module View tab displays a graphic of the transponder that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Moving the mouse pointer over the graphic also displays the alarm counts.) The module status is displayed under Operational State. Right-clicking the graphic opens a shortcut menu that you can use to display the module in the Equipment Inventory Table, in the Alarm Browser, or in the BT Transponder PM Table.

D.5.1.2 Identification Tab

The Identification tab allows you to view and update transponder identification information.

Table D-240   Field Descriptions for the Identification Tab

Field	Description
NE ID	Displays the user-defined name of the NE where the transponder is installed.
Description	Displays information that a user has entered (if any) to describe the NE.
NE Model	Identifies the model of the selected NE (ONS 15808) where the transponder is installed.
Rack ID	Displays the identification number of the rack where the subrack containing the transponder is installed.
Subrack ID	Displays the identification number of the subrack.
Slot ID	Displays the identification number of the slot containing the transponder.
Software Version	Displays the version of the software.
BIOS Version	Displays the version number of the BIOS.
Board Serial Number	Displays the serial number of the board.
SCC Number	Displays the version of the module serial communication controller (SCC).
Product Option	Displays the product option. Displays Not Available if TL1 Agent version is earlier than version 2.1.
Hardware Version	Displays the version of the hardware. Displays Not Available if TL1 Agent version is earlier than version 2.1.
Line Direction	Shows the line direction for the transponder.
State	Allows you to place the transponder in one of two states: In Service or Under Maintenance.
PM Collection Status	Allows you to enable or disable PM collection for the transponder.

D.5.1.3 Transmit Direction Tab

The Transmit Direction tab allows you to configure the BT10E-LCxx and BT10E-LLxx transmit direction properties. The tab contains the following subtabs:

D.5.1.3.1 Temperature Subtab

The Temperature subtab allows you to assign temperature-related thresholds and alarm severities for the transponder laser.

Table D-241   Field Descriptions for the Temperature Subtab

Field	Description
Laser 1	
Value	When the Update button is clicked, displays the current temperature of Laser 1 (in degrees Celsius).
Low	Sets the operating temperature low threshold, in degrees Celsius, and the alarm severity level.
High	Sets the operating temperature high threshold, in degrees Celsius, and the alarm severity level.

D.5.1.3.2 Current Subtab

The Current subtab allows you to assign thresholds and alarm severities for the transponder laser current levels.

Table D-242   Field Descriptions for the Current Subtab

Field	Description
Laser 1	
Value	When the Update button is clicked, displays the current value of the Laser 1 current (in mA).
Degrade	Sets the degrade threshold for the Laser 1 current, in mA, and the alarm severity level.
Fail	Sets the failure threshold for the Laser 1 current, in mA, and the alarm severity level.

D.5.1.3.3 Power Subtab

The Power subtab allows you to assign thresholds and alarm severities for the transponder laser power levels.

Table D-243   Field Descriptions for the Power Subtab

Field	Description
Laser 1	
Value	When the Update button is clicked, displays the current power of Laser 1 (in mW).
Low	Sets the low threshold for the Laser 1 power, in mW, and the alarm severity level.
High	Sets the high threshold for the Laser 1 power, in mW, and the alarm severity level.

D.5.1.3.4 Input Power Subtab

The Input Power subtab allows you to assign thresholds and alarm severities for the power coming into the transponder lasers.

Table D-244   Field Descriptions for the Input Power Subtab

Field	Description
Input Power 1	
Value	When the Update button is clicked, displays the current transponder input power (in dBm).
Fail	Sets the failure threshold for the input power, in dBm, and the alarm severity level.
Low	Sets the low threshold for the input power, in dBm, and the alarm severity level.
High	Sets the high threshold for the input power, in dBm, and the alarm severity level.

D.5.1.3.5 Output Power Subtab

The Output Power subtab allows you to assign thresholds and alarm severities for the transponder output power.

Table D-245   Field Descriptions for the Output Power Subtab

Field	Description
Output Power	
Value	When the Update button is clicked, displays the current transponder output power (in dBm).
Low	Sets the low threshold for the output power, in dBm, and the alarm severity level.
High	Sets the high threshold for the output power, in dBm, and the alarm severity level.
Fail	Sets the failure threshold for the output power, in dBm, and the alarm severity level.

D.5.1.3.6 QoS 15 Min and QoS 1 Day Subtabs

The QoS 15 Min and QoS 1 Day subtabs allow you to assign thresholds and alarm severities for quality of service (QoS) counters. Click the **QoS 15 min** tab to assign thresholds for 15-minute collection increments. Click the **QoS 1 day** tab to assign thresholds for 24-hour collection increments. The two tabs have identical fields.

Table D-246   Field Descriptions for the QoS 15 Min and QoS 1 Day Subtabs

Field	Description
Runts Packets	Number of transmitted runt frames (packets). Runts are packets less then 64 bytes long but well formed.
Giants Packets	Number of received giants frame (packets). Giants are well formed packets greater then 1518 bytes
Total Errors	Displays the total number of received errors.
Total CRC	Number of transmitted packets (length = 64 -1518) with bad Frame Check Sequence (FCS).
Total PCS Errored Block	The number of decoding errored blocks.
Total Oversize Packets	Number of transmitted frames (packets) exceeding the configured buffer size and that will be dropped.

D.5.1.4 Receive Direction Tab

The Receive Direction tab allows you to configure the BT10E-LCxx and BT10E-LLxx receive direction properties. The Receive Direction tab contains the following subtabs:

D.5.1.4.1 Input Power Subtab

The Input Power subtab allows you to assign thresholds and alarm severities for the power coming into the transponder lasers.

Table D-247   Field Descriptions for the Input Power Subtab

Field	Description
Input Power 1	
Value	When the Update button is clicked, displays the current transponder input power (in dBm).
Fail	Sets the failure threshold for the input power, in dBm, and the alarm severity level.
Low	Sets the low threshold for the input power, in dBm, and the alarm severity level.
High	Sets the high threshold for the input power, in dBm, and the alarm severity level.

D.5.1.4.2 Output Power Subtab

The Output Power subtab allows you to assign thresholds and alarm severities for the transponder output power.

Table D-248   Field Descriptions for the Output Power Subtab

Field	Description
Output Power 1	
Value	When the Update button is clicked, displays the current transponder output power (in dBm).
Fail	Sets the failure threshold for the output power, in dBm, and the alarm severity level.
Low	Sets the low threshold for the output power, in dBm, and the alarm severity level.
High	Sets the high threshold for the output power, in dBm, and the alarm severity level.

D.5.1.4.3 QoS 15 Min and QoS 1 Day Subtabs

The QoS 15 Min and QoS 1 Day subtabs allow you to assign thresholds and alarm severities for quality of service (QoS) counters. Click the **QoS 15 min** tab to assign thresholds for 15-minute collection increments. Click the **QoS 1 day** tab to assign thresholds for 24-hour collection increments. The two tabs have identical fields.

Table D-249   Field Descriptions for the QoS 15 Min and QoS 1 Day Subtabs

Field	Description
Errored Seconds	Sets the high threshold for the number of FEC errored seconds (ES) and the alarm severity level. An errored second is a one-second period with one or more error blocks or at least one defect.
Severely Errored Seconds	Sets the high threshold for the number of FEC severely errored seconds (SES) and the alarm severity level. A severely errored second is a one-second period that contains at least 30% errored blocks or at least one defect.
Background Block Errors	Sets the high threshold for the number of FEC background block errors (BBE) and the alarm severity level. An errored block is a block in which one or more bits are in error. A background block error is an errored block that does not occur as part of a severely errored second.
Unavailable Seconds	Sets the high threshold for the number of FEC unavailable seconds (UAS) and the alarm severity level. The detection of 10 consecutive SES begins a period of UAS. The 10 SES detected are part of the UAS. The ES and SES counters decrement by 10 seconds and the UAS counter increments by an equivalent number of seconds. A new period of available time begins at the onset of 10 consecutive non-SES events.
Error Corrected Rate	Sets the high threshold for the bit error corrected rate (ECR) and the alarm severity level. The ECR is the ratio of FEC bit errors corrected to bits transmitted.
Uncorrected Codewords Rate	Sets the high threshold for the uncorrected codeword rate (UCR) and the alarm severity level. The UCR is the ratio of uncorrected codewords to codewords transmitted. A codeword is a block of N symbols that carry K information symbols and R redundant symbols (N = K+R).

D.5.1.5 Action Tab

The Action tab allows you to force the ONS 15808 optical output power.

Table D-250   Field Descriptions for the Action Tab

Field	Description
Output Power Setting	
Force Optical Output Power	Allows you to activate the output power control mode on the BT transponder and force the transponder to regulate the optical output power. An improper setting of the transponder output power level could affect either of the following: • The equalization of the channel downstream from the optical line, from the optical channel S/N in fiber, and at the end of the optical line. • The optical channel power at the end of the optical line. Click **Execute** to activate this feature.
Transparency Configuration	Allows you to activate CDL Transparency Configuration, which allows you to configure the preamble transparency by the BT10E-LCxx module. Click **Execute** to activate this feature.
Buffer Size Configuration (packets)	Allows you to activate the Buffer Size Configuration action, which allows you to configure the packet buffer size. Click **Execute** to activate this feature.

Note   See Table 1-20 on page 1-44 for descriptions of actions that can be performed using the buttons at the bottom of the window.

D.5.2 Slot Properties—FEC-LEM

The Slot Properties pane displays information about the Cisco ONS 15800 or ONS 15801 module that is installed in the slot selected in the NE Explorer tree. Use this properties pane to change the module's performance monitoring thresholds.

Forward error correction (FEC) line extender modules (LEMs) extend transmission distances in ONS 15800 or ONS 15801 regeneration and optical add/drop multiplexing (OADM) sites.

A block diagram is shown in the following figure.

Figure D-8   *Cisco ONS 15800 or ONS 15801 FEC Line Extender Module*
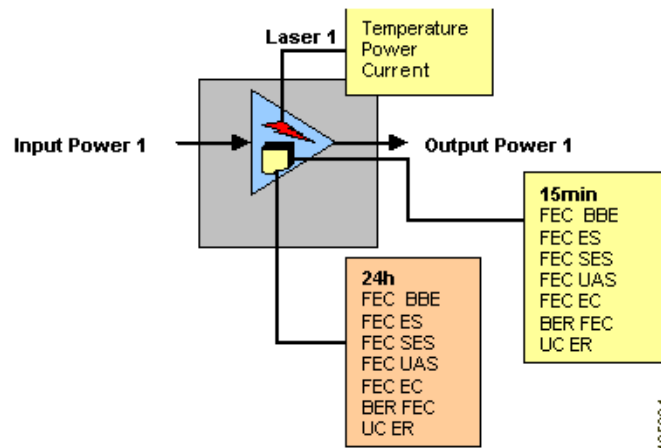
The ONS 15800 or ONS 15801 transponder modules shown on this sheet include:

- Line Extender Module–Externally Modulated–2.5 Gbps–FEC (LEM-EM-Fxx)
- Line Extender Module–Externally Modulated–10 Gbps–FEC (LEM-10G-Fxx)

For FEC-LEM transponders, the Slot Properties pane displays the following tabs: Module View, Identification, Temperature, Quality of Service, Current, Power, Input Power, Output Power, and Action.

D.5.2.1 Module View Tab

The Module View tab displays a graphic of the transponder that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Moving the mouse pointer over the graphic also displays the alarm counts.) The module status is displayed under Operational State. Right-clicking the graphic opens a shortcut menu that you can use to display the module in the Alarm Browser, Equipment Inventory Table, or in the FEC-LEM PM Table.

D.5.2.2 Identification Tab

The Identification tab allows you to view and update transponder identification information.

Table D-251   Field Descriptions for the Identification Tab

Field	Description
NE ID	Displays the user-defined name of the NE where the transponder is installed.
Description	Displays information that a user has entered (if any) to describe the NE.
NE Model	Identifies the model of the selected NE (ONS 15800 or ONS 15801) where the transponder is installed.
Rack ID	Displays the identification number of the rack where the subrack containing the transponder is installed.
Subrack ID	Displays the identification number of the subrack.
Slot ID	Displays the identification number of the slot containing the transponder.
Software Version	Displays the version of the software running on the module.
BIOS Version	Displays the version number of the BIOS.
Board Serial Number	Displays the serial number of the board.
SCC Number	Displays the version of the module serial communication controller (SCC).
Product Option	Displays the product option. Displays "Not Available" if TL1 Agent version is earlier than version 2.1.
Hardware Version	Displays the version of the hardware. Displays "Not Available" if TL1 Agent version is earlier than version 2.1.
Line Direction	Shows the line direction for the transponder.
State	Allows you to place the transponder in one of two states: In Service or Under Maintenance.
PM Collection Status	Allows you to enable or disable PM data collection for the transponder.

D.5.2.3 Temperature Tab

The Temperature tab allows you to assign temperature-related thresholds and alarm severities for the transponder laser.

Table D-252   Field Descriptions for the Temperature Tab

Field	Description
Value	When the **Update** button is clicked, displays the current temperature of Laser 1.
Low	Sets the low temperature threshold (in degrees Celsius) and the alarm severity level.
High	Sets the high temperature threshold (in degrees Celsius) and the alarm severity level.

D.5.2.4 Quality of Service Tab

The Quality of Service tab allows you to assign thresholds and alarm severities for forward error correction (FEC) counters. Click the **15 min** radio button to assign thresholds for 15-minute collection increments. Click the **1 day** radio button to assign thresholds for 24-hour collection increments.

Table D-253   Field Descriptions for the Quality of Service Tab

Field	Description
FEC Counters	
Errored Seconds	Sets the high threshold for the number of FEC errored seconds (ES) and the alarm severity level.
Severely Errored Seconds	Sets the high threshold for the number of FEC severely errored seconds (SES) and the alarm severity level.
Background Block Errors	Sets the high threshold for the number of FEC background block errors (BBE) and the alarm severity level.
Unavailable Seconds	Sets the high threshold for the number of FEC unavailable seconds (UAS) and the alarm severity level. The detection of 10 consecutive SES begins a period of UAS. The 10 SES detected are part of the UAS. The ES and SES counters decrement by 10 seconds and the UAS counter increments by an equivalent number of seconds. A new period of available time begins at the onset of 10 consecutive non-SES events.
Error Corrected Rate	Sets the high threshold for the bit error corrected rate (ECR) and the alarm severity level. The ECR is the ratio of FEC bit errors corrected to bits transmitted.
Uncorrected Codewords Rate	Sets the high threshold for the uncorrected codeword rate (UCR) and the alarm severity level. The UCR is the ratio of uncorrected codewords to codewords transmitted. A codeword is a block of N symbols that carry K information symbols and R redundant symbols (N = K+R).

D.5.2.5 Current Tab

The Current tab allows you to assign thresholds and alarm severities for the transponder laser current levels.

Table D-254   Field Descriptions for the Current Tab

Field	Description
Value	When the **Update** button is clicked, displays the current value of the laser current.
Degrade	Sets the degrade threshold for the laser current (in mA) and the alarm severity level.
Fail	Sets the failure threshold for the laser current (in mA) and the alarm severity level.

D.5.2.6 Power Tab

The Power tab allows you to assign thresholds and alarm severities for the transponder Laser 1 power levels.

Table D-255   Field Descriptions for the Power Tab

Field	Description
Value	When the **Update** button is clicked, displays the current power of Laser 1.
Low	Sets the low threshold for the laser power (in mW) and the alarm severity level.
High	Sets the high threshold for the laser power (in mW) and the alarm severity level.

■ **Transponder Cards**

D.5.2.7 Input Power Tab

The Input Power tab allows you to assign thresholds and alarm severities for the power coming into the transponder.

Table D-256   Field Descriptions for the Input Power Tab

Field	Description
Value	When the **Update** button is clicked, displays the current transponder input power.
Low	Sets the low threshold for the module input power in dBm and the alarm severity level.
High	Sets the high threshold for the module input power (in dBm) and the alarm severity level.
Fail	Sets the failure threshold for the module input power (in dBm) and the alarm severity level.

D.5.2.8 Output Power Tab

The Output Power tab allows you to assign thresholds and alarm severities for the transponder output power.

Table D-257   Field Descriptions for the Output Power Tab

Field	Description
Value	When the **Update** button is clicked, displays the current transponder output power.
Low	Sets the low threshold for the transponder output power (in dB) and the alarm severity level.
High	Sets the high threshold for the transponder output power (in dB) and the alarm severity level.
Fail	Sets the failure threshold for the transponder output power (in dB) and the alarm severity level.

D.5.2.9 Action Tab

The Action tab allows you to specify the output power setting.

Table D-258   Field Descriptions for the Action Tab

Action	Description
Output Power Setting	The output power setting action is used to activate the output power control mode on FEC transponders and force the transponder to regulate the optical output power. An incorrect output power setting could affect the equalization of the channel downstream. Click **Execute** to apply your changes to the setting. Click **Update** to retrieve the current setting from the NE.

Note   See Table 1-20 on page 1-44 for descriptions of actions that can be performed using the buttons at the bottom of the window.
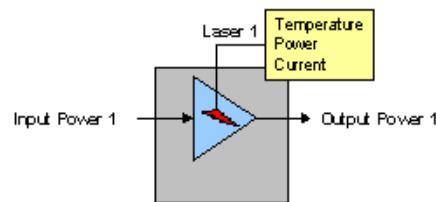
D.5.3 Slot Properties—LEM

The Slot Properties pane displays information about the Cisco ONS 15800 or ONS 15801 module that is installed in the slot selected in the NE Explorer tree. Use this properties pane to change the module performance monitoring thresholds.

Line extender modules (LEMs) extend transmission distances in ONS 15800 or ONS 15801 regeneration and optical add/drop multiplexing (OADM) sites.

A block diagram is shown in the following figure.

Figure D-9   Cisco ONS 15800 or ONS 15801 Line Extender Module

The ONS 15800 or ONS 15801 LEM modules shown on this sheet include:

- Line Extender Module–Externally Modulated–Normal (LEM-EM-Nxx)
- Line Extender Module–622 Mbps–Normal (LEM-622-Nxx)

For these transponders, the Slot Properties pane displays the following tabs: Module View, Identification, Temperature, Current, Power, Input Power, and Output Power.

D.5.3.1 Module View Tab

The Module View tab displays a graphic of the transponder that is installed in the slot. The number of critical, major, and minor alarms for the module is displayed under Alarm Status. (Moving the mouse pointer over the graphic also displays the alarm counts.) The module status is displayed under Operational State. Right-clicking the graphic opens a shortcut menu that you can use to display the module in the Alarm Browser or in the Equipment Inventory Table.

D.5.3.2 Identification Tab

The Identification tab allows you to view and update transponder identification information.

Table D-259   Field Descriptions for the Identification Tab

Field	Description
NE ID	Displays the user-defined name of the NE where the transponder is installed.
Description	Displays information that a user has entered (if any) to describe the NE.
NE Model	Identifies the model of the selected NE (ONS 15800 or ONS 15801) where the transponder is installed.
Rack ID	Displays the identification number of the rack where the subrack containing the transponder is installed.
Subrack ID	Displays the identification number of the subrack.

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Table D-259   Field Descriptions for the Identification Tab (continued)

Field	Description
Slot ID	Displays the identification number of the slot containing the transponder.
Software Version	Displays the version of the software running on the module.
BIOS Version	Displays the version number of the BIOS.
Board Serial Number	Displays the serial number of the board.
SCC Number	Displays the version of the module serial communication controller (SCC).
Product Option	Displays the product option. Displays "Not Available" if TL1 Agent version is earlier than version 2.1.
Hardware Version	Displays the version of the hardware. Displays "Not Available" if TL1 Agent version is earlier than version 2.1.
Line Direction	Shows the line direction for the transponder.
State	Allows you to place the transponder in one of two states: In Service or Under Maintenance.
PM Collection Status	Allows you to enable or disable PM data collection for the transponder.

D.5.3.3 Temperature Tab

The Temperature tab allows you to assign thresholds and alarm severities for the transponder laser.

Table D-260   Field Descriptions for the Temperature Tab

Field	Description
Value	When the **Update** button is clicked, displays the current temperature of the transponder laser.
Low	Sets the low temperature threshold (in degrees Celsius) and the alarm severity level.
High	Sets the high temperature threshold (in degrees Celsius) and the alarm severity level.

D.5.3.4 Current Tab

The Current tab allows you to assign thresholds and alarm severities for the transponder laser current levels.

Table D-261   Field Descriptions for the Current Tab

Field	Description
Value	When the **Update** button is clicked, displays the current value of the laser current.
Degrade	Sets the degrade threshold for the laser current (in mA) and the alarm severity level.
Fail	Sets the failure threshold for the laser current (in mA) and the alarm severity level.

D.5.3.5 Power Tab

The Power tab allows you to assign thresholds and alarm severities for the transponder Laser 1 power levels.

Table D-262   Field Descriptions for the Power Tab

Field	Description
Value	When the **Update** button is clicked, displays the current power of Laser 1.
Low	Sets the low threshold for the laser power (in mW) and the alarm severity level.
High	Sets the high threshold for the laser power (in mW) and the alarm severity level.

D.5.3.6 Input Power Tab

The Input Power tab allows you to assign thresholds and alarm severities for the power coming into the transponder.

Table D-263   Field Descriptions for the Input Power Tab

Field	Description
Value	When the **Update** button is clicked, displays the current transponder input power.
Low	Sets the low threshold for the module input power in dBm and the alarm severity level.
High	Sets the high threshold for the module input power (in dBm) and the alarm severity level.

D.5.3.7 Output Power Tab

The Output Power tab allows you to assign thresholds and alarm severities for the transponder output power.

Table D-264   Field Descriptions for the Output Power Tab

Field	Description
Value	When the **Update** button is clicked, displays the current transponder output power.
Low	Sets the low threshold for the transponder output power (in dBm) and the alarm severity level.
High	Sets the high threshold for the transponder output power (in dBm) and the alarm severity level.

Note   See for descriptions of actions that can be performed using the buttons at the bottom of the window.

D.5.4 Slot Properties—LEM-10-B1

The Slot Properties pane displays information about the Cisco ONS 15800 or ONS 15801 module that is installed in the slot selected in the NE Explorer tree. Use this properties pane to change the module performance monitoring thresholds.

Line extender modules (LEMs) extend transmission distances in ONS 15800 or ONS 15801 regeneration and optical add/drop multiplexing (OADM) sites.

A block diagram is shown is the following figure.

Figure D-10   Cisco ONS 15800 or ONS 15801 Line Extender Module–10-Gbps–B1 Monitoring
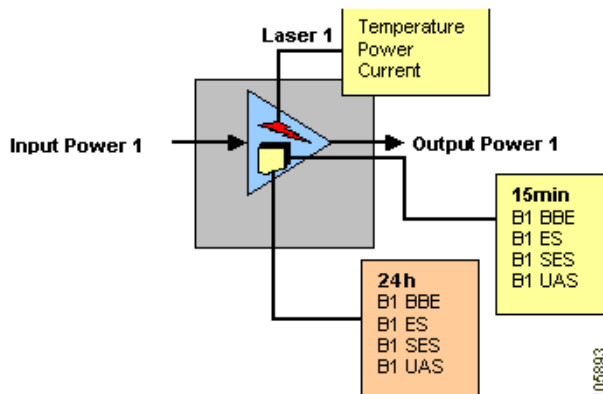
The ONS 15800 or ONS 15801 transponder modules shown on this sheet include:

- Line Extender Module–10 Gbps–B1 Monitoring (LEM-10G-Mxx)
- Line Extender Module–10 Gbps High Output Power–B1 Monitoring (LEM-10H-Mxx)

For these transponders, the Slot Properties pane displays the following tabs: Module View, Identification, Temperature, Quality of Service, Current, Power, Input Power, and Output Power.

D.5.4.1 Module View Tab

The Module View tab displays a graphic of the transponder that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Moving the mouse pointer over the graphic also displays the alarm counts.) The module status is displayed under Operational State. Right-clicking the graphic opens a shortcut menu that you can use to display the module in the Alarm Browser, in the Equipment Inventory Table, or in the B1 LEM PM Table.

D.5.4.2 Identification Tab

The Identification tab allows you to view and update transponder identification information.

Table D-265   Field Descriptions for the Identification Tab

Field	Description
NE ID	Displays the user-defined name of the NE where the transponder is installed.
Description	Displays information that a user has entered (if any) to describe the NE.
NE Model	Identifies the model of the selected NE (ONS 15800 or ONS 15801) where the transponder is installed.
Rack ID	Displays the identification number of the rack where the subrack containing the transponder is installed.
Subrack ID	Displays the identification number of the subrack.
Slot ID	Displays the identification number of the slot containing the transponder.
Software Version	Displays the version of the software.
BIOS Version	Displays the version number of the BIOS.

Table D-265   Field Descriptions for the Identification Tab (continued)

Field	Description
Board Serial Number	Displays the serial number of the board.
SCC Number	Displays the version of the module serial communication controller (SCC).
Product Option	Displays the product option. Displays "Not Available" if the TL1 Agent version is earlier than version 2.1.
Hardware Version	Displays the version of the hardware. Displays "Not Available" if the TL1 Agent version is earlier than version 2.1.
Line Direction	Shows the line direction for the transponder.
State	Allows you to place the transponder in one of two states: In Service or Under Maintenance.
PM Collection Status	Allows you to enable or disable PM data collection for the transponder.

D.5.4.3 Temperature Tab

The Temperature tab allows you to assign performance monitoring thresholds for the transponder laser temperature.

Table D-266   Field Descriptions for the Temperature Tab

Field	Description
Value	When the **Update** button is clicked, displays the current temperature of Laser 1.
Low	Sets the low temperature threshold (in degrees Celsius) and the alarm severity level.
High	Sets the high temperature threshold (in degrees Celsius) and the alarm severity level.

D.5.4.4 Quality of Service Tab

The Quality of Service tab allows you to assign thresholds and alarm severities for B1 counters. Click the **15 min** radio button to assign thresholds for 15-minute collection increments. Click the **1 day** radio button to assign thresholds for 24-hour collection increments.

Table D-267   Field Descriptions for the Quality of Service Tab

Field	Description
B1 Counters	
Errored Seconds	Sets the high threshold for the number of B1 errored seconds (ES) and the alarm severity level. An errored second is a one-second period with one or more error blocks or at least one defect.
Severely Errored Seconds	Sets the high threshold for the number of B1 severely errored seconds (SES) and the alarm severity level. A severely errored second is a one-second period that contains at least 30 percent of errored blocks or at least one defect.

Table D-267   Field Descriptions for the Quality of Service Tab (continued)

Field	Description
Background Block Errors	Sets the high threshold for the number of B1 background block errors (BBE) and the alarm severity level. An errored block is a block in which one or more bits are in error. A background block error is an errored block that does not occur as part of a severely errored second.
Unavailable Seconds	Sets the high threshold for the number of B1 unavailable seconds (UAS) and the alarm severity level. The detection of 10 consecutive SES begins a period of UAS. The 10 SES detected are part of the UAS. The ES and SES counters decrement by 10 seconds and the UAS counter increments by an equivalent number of seconds. A new period of available time begins at the onset of 10 consecutive non-SES events.

D.5.4.5 Current Tab

The Current tab allows you to assign performance monitoring thresholds for the transponder laser current levels.

Table D-268   Field Descriptions for the Current Tab

Field	Description
Value	When the **Update** button is clicked, displays the current value of the transponder laser current.
Degrade	Sets the degrade threshold for the laser current (in mA) and the alarm severity level.
Fail	Sets the failure threshold for the laser current (in mA) and the alarm severity level.

D.5.4.6 Power Tab

The Power tab allows you to assign performance monitoring thresholds for the transponder Laser 1 power levels.

Table D-269   Field Descriptions for the Power Tab

Field	Description
Value	When the **Update** button is clicked, displays the current power of Laser 1.
Low	Sets the low threshold for the laser power (in mW) and the alarm severity level.
High	Sets the high threshold for the laser power (in mW) and the alarm severity level.

D.5.4.7 Input Power Tab

The Input Power tab allows you to assign performance monitoring thresholds for the power coming into the transponder.

Table D-270   Field Descriptions for the Input Power Tab

Field	Description
Value	When the **Update** button is clicked, displays the current transponder input power.
Fail	Sets the fail threshold for the module input power in dBm and the alarm severity level.
Degrade	Sets the degrade threshold for the module input power (in dBm) and the alarm severity level.

D.5.4.8 Output Power Tab

The Output Power tab allows you to assign performance monitoring thresholds for the transponder output power.

Table D-271   Field Descriptions for the Output Power Tab

Field	Description
Value	When the **Update** button is clicked, displays the current transponder output power.
Low	Sets the low threshold for the transponder output power (in dBm) and the alarm severity level.
High	Sets the high threshold for the transponder output power (in dBm) and the alarm severity level.

Note   See Table 1-20 on page 1-44 for descriptions of actions that can be performed using the buttons at the bottom of the window.

D.5.5 Slot Properties—LEM-10G-Nxx

The Slot Properties pane displays information about the Line Extender Module–10 Gbps–Normal (LEM-10G-Nxx) that is installed in the slot selected in the NE Explorer tree. Use this properties pane to change the module performance monitoring thresholds.

Line extender modules (LEMs) extend transmission distances in Cisco ONS 15800 or ONS 15801 regeneration and optical add/drop multiplexing (OADM) sites.

A block diagram is shown in the following figure.

Figure D-11   Cisco ONS 15800 or ONS 15801 Line Extender Module–10 Gbps–Normal
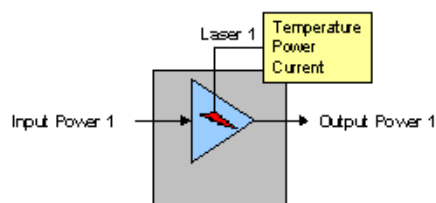
For the LEM-10G-Nxx module, the Slot Properties pane displays the following tabs: Module View, Identification, Temperature, Current, Power, Input Power, and Output Power.

D.5.5.1 Module View Tab

The Module View tab displays a graphic of the transponder that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Moving the mouse pointer over the graphic also displays the alarm counts.) The module status is displayed under Operational State. Right-clicking the graphic opens a shortcut menu that you can use to display the module in the Equipment Inventory Table or in the Alarm Browser.

D.5.5.2 Identification Tab

The Identification tab allows you to view and update transponder identification information.

Table D-272   Field Descriptions for the Identification Tab

Field	Description
NE ID	Displays the user-defined name of the NE where the transponder is installed.
Description	Displays information that a user has entered (if any) to describe the NE.
NE Model	Identifies the model of the selected NE (ONS 15800 or ONS 15801) where the transponder is installed.
Rack ID	Displays the identification number of the rack where the subrack containing the transponder is installed.
Subrack ID	Displays the identification number of the subrack.
Slot ID	Displays the identification number of the slot containing the transponder.
Software Version	Displays the version of the software.
BIOS Version	Displays the version number of the BIOS.
Board Serial Number	Displays the serial number of the board.
SCC Number	Displays the version of the module serial communication controller (SCC).
Product Option	Displays the product option. Displays "Not Available" if the TL1 Agent version is earlier than version 2.1.
Hardware Version	Displays the version of the hardware. Displays "Not Available" if the TL1 Agent version is earlier than version 2.1.
Line Direction	Shows the line direction for the transponder.
State	Allows you to place the transponder in one of two states: In Service or Under Maintenance.
PM Collection Status	Allows you to enable or disable PM data collection for the transponder.

D.5.5.3 Temperature Tab

The Temperature tab allows you to assign performance monitoring thresholds for the transponder laser temperature.

Table D-273   Field Descriptions for the Temperature Tab

Field	Description
Value	When the **Update** button is clicked, displays the current temperature of Laser 1.
Low	Sets the low temperature threshold (in degrees Celsius) and the alarm severity level.
High	Sets the high temperature threshold (in degrees Celsius) and the alarm severity level.

D.5.5.4 Current Tab

The Current tab allows you to assign performance monitoring thresholds for the transponder laser current levels.

Table D-274   Field Descriptions for the Current Tab

Field	Description
Value	When the **Update** button is clicked, displays the current value of the laser current.
Degrade	Sets the degrade threshold for the laser current (in mA) and the alarm severity level.
Fail	Sets the failure threshold for the laser current (in mA) and the alarm severity level.

D.5.5.5 Power Tab

The Power tab allows you to assign performance monitoring thresholds for the transponder Laser 1 power levels.

Table D-275   Field Descriptions for the Power Tab

Field	Description
Value	When the **Update** button is clicked, displays the current power of Laser 1.
Low	Sets the low threshold for the laser power (in mW) and the alarm severity level.
High	Sets the high threshold for the laser power (in mW) and the alarm severity level.

D.5.5.6 Input Power Tab

The Input Power tab allows you to assign performance monitoring thresholds for the power coming into the transponder.

Table D-276   Field Descriptions for the Input Power Tab

Field	Description
Value	When the **Update** button is clicked, displays the current transponder input power.
Fail	Sets the failure threshold for the module input power in dBm and the alarm severity level.
Degrade	Sets the degrade threshold for the module input power (in dBm) and the alarm severity level.

D.5.5.7 Output Power Tab

The Output Power tab allows you to assign performance monitoring thresholds for the transponder output power.

Table D-277   Field Descriptions for the Output Power Tab

Field	Description
Value	When the **Update** button is clicked, displays the current transponder output power.
Low	Sets the low threshold for the transponder output power (in dBm) and the alarm severity level.
High	Sets the high threshold for the transponder output power (in dBm) and the alarm severity level.

Note   See Table 1-20 on page 1-44 for descriptions of actions that can be performed using the buttons at the bottom of the window.

D.5.6 Slot Properties—LEM-EM-M

The Slot Properties pane displays information about the Line Extender Module–Externally Modulated–B1 Monitoring (LEM-EM-M) that is installed in the slot selected in the NE Explorer tree. Use this properties pane to change the module performance monitoring thresholds.

Line extender modules (LEMs) extend transmission distances in Cisco ONS 15800 or ONS 15801 regeneration and optical add/drop multiplexing (OADM) sites.

A block diagram is shown in the following figure.

Figure D-12   *Cisco ONS 15800 or ONS 15801 Line Extender Module–Externally Modulated–B1 Monitoring*
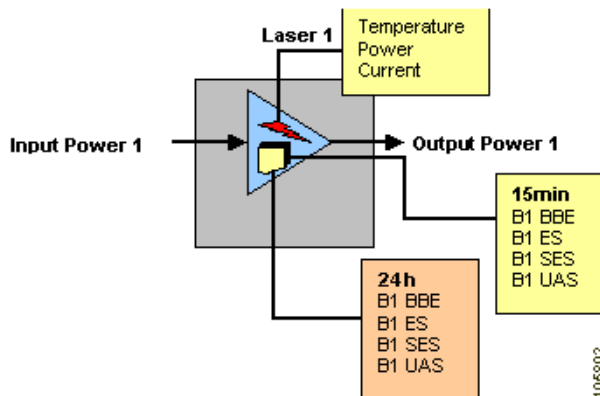
For the B1 LEM transponder, the Slot Properties pane displays the following tabs: Module View, Identification, Temperature, Quality of Service, Current, Power, Input Power, and Output Power.

D.5.6.1 Module View Tab

The Module View tab displays a graphic of the transponder that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Moving the mouse pointer over the graphic also displays the alarm counts.) The module status is displayed under Operational State. Right-clicking the graphic opens a shortcut menu that you can use to display the module in the Alarm Browser or in the Equipment Inventory Table.

D.5.6.2 Identification Tab

The Identification tab allows you to view and update transponder identification information.

Table D-278   Field Descriptions for the Identification Tab

Field	Description
NE ID	Displays the user-defined name of the NE where the transponder is installed.
Description	Displays information that a user has entered (if any) to describe the NE.
NE Model	Identifies the model of the selected NE (ONS 15800 or ONS 15801) where the transponder is installed.
Rack ID	Displays the identification number of the rack where the subrack containing the transponder is installed.
Subrack ID	Displays the identification number of the subrack.
Slot ID	Displays the identification number of the slot containing the transponder.
Software Version	Displays the version of the software.
BIOS Version	Displays the version number of the BIOS.
Board Serial Number	Displays the serial number of the board.
SCC Number	Displays the version of the module serial communication controller (SCC).
Product Option	Displays the product option. Displays "Not Available" if the TL1 Agent version is earlier than version 2.1.
Hardware Version	Displays the version of the hardware. Displays "Not Available" if the TL1 Agent version is earlier than version 2.1.
Line Direction	Shows the line direction for the transponder.
State	Allows you to place the transponder in one of two states: In Service or Under Maintenance.
PM Collection Status	Allows you to enable or disable PM data collection for the transponder.

D.5.6.3 Temperature Tab

The Temperature tab allows you to assign performance monitoring thresholds for the transponder laser temperature.

Table D-279   Field Descriptions for the Temperature Tab

Field	Description
Value	When the **Update** button is clicked, displays the current temperature of Laser 1.
Low	Sets the low temperature threshold (in degrees Celsius) and the alarm severity level.
High	Sets the high temperature threshold (in degrees Celsius) and the alarm severity level.

D.5.6.4 Quality of Service Tab

The Quality of Service tab allows you to assign thresholds and alarm severities for B1 counters. Click the **15 min** radio button to assign thresholds for 15-minute collection increments. Click the **1 day** radio button to assign thresholds for 24-hour collection increments.

Table D-280   Field Descriptions for the Quality of Service Tab

Field	Description
Errored Seconds	Sets the high threshold for the number of B1 errored seconds (ES) and the alarm severity level. An errored second is a one-second period with one or more error blocks or at least one defect.
Severely Errored Seconds	Sets the high threshold for the number of B1 severely errored seconds (SES) and the alarm severity level. A severely errored second is a one-second period that contains at least 30 percent of errored blocks or at least one defect.
Background Block Errors	Sets the high threshold for the number of B1 background block errors (BBE) and the alarm severity level. An errored block is a block in which one or more bits are in error. A background block error is an errored block that does not occur as part of a severely errored second.
Unavailable Seconds	Sets the high threshold for the number of B1 unavailable seconds (UAS) and the alarm severity level. The detection of 10 consecutive SES begins a period of UAS. The 10 SES detected are part of the UAS. The ES and SES counters decrement by 10 seconds and the UAS counter increments by an equivalent number of seconds. A new period of available time begins at the onset of 10 consecutive non-SES events.

D.5.6.5 Current Tab

The Current tab allows you to assign performance monitoring thresholds for the transponder laser current levels.

Table D-281   Field Descriptions for the Current Tab

Field	Description
Value	When the **Update** button is clicked, displays the current value of the transponder laser current.
Degrade	Sets the degrade threshold for the laser current (in mA) and the alarm severity level.
Fail	Sets the failure threshold for the laser current (in mA) and the alarm severity level.

D.5.6.6 Power Tab

The Power tab allows you to assign performance monitoring thresholds for the transponder Laser 1 power levels.

Table D-282   Field Descriptions for the Power Tab

Field	Description
Value	When the **Update** button is clicked, displays the current power of Laser 1.
Low	Sets the low threshold for the laser power (in mW) and the alarm severity level.
High	Sets the high threshold for the laser power (in mW) and the alarm severity level.

D.5.6.7 Input Power Tab

The Input Power tab allows you to assign performance monitoring thresholds for the power coming into the transponder.

Table D-283   Field Descriptions for the Input Power Tab

Field	Description
Value	When the **Update** button is clicked, displays the current transponder input power.
Low	Sets the low threshold for the module input power in dBm and the alarm severity level.
High	Sets the high threshold for the module input power (in dBm) and the alarm severity level.

D.5.6.8 Output Power Tab

The Output Power tab allows you to assign performance monitoring thresholds for the transponder output power.

Table D-284   Field Descriptions for the Output Power Tab

Field	Description
Value	When the **Update** button is clicked, displays the current transponder output power.
Low	Sets the low threshold for the transponder output power (in dBm) and the alarm severity level.
High	Sets the high threshold for the transponder output power (in dBm) and the alarm severity level.

Note for descriptions of actions that can be performed using the buttons at the bottom of the window.

D.5.7 Slot Properties—LT

The Slot Properties pane displays information about the Cisco ONS 15808 module that is installed in the slot selected in the NE Explorer tree. Use this properties pane to change the module performance monitoring thresholds.

The line transponder performs 3R regeneration of 2.5 Gbps and 10 Gbps optical signals and provides performance and quality parameters based on forward error correction (FEC) overhead. Line transponders are used in regeneration sites to retime, reshape, and regenerate low output signals. Line transponders decode out-of-band (OOB) FEC information, perform error correction, and add OOB-FEC encoding to transport signals.

A block diagram is shown in the following figure.

Figure D-13   Cisco ONS 15808 Line Transponder
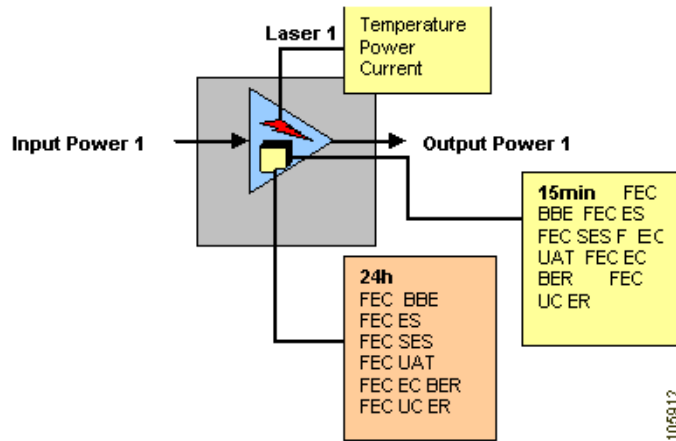
Line transponders shown on this sheet include:

- Line Transponder–2.5 Gbps–C band (LT-25G-Cxx)
- Line Transponder–10 Gbps–C band (LT-10G-Cxx)
- Line Transponder–10 Gbps–C band–Single Slot (LT-10G-SCxx)
- Line Transponder–10 Gbps–L band–Single Slot (LT-10G-SLxx)

For ONS 15808 line transponders, the Slot Properties pane displays the following tabs: Module View, Identification, Temperature, Quality of Service, Current, Power, Input Power, Output Power, and Action.

D.5.7.1 Module View Tab

The Module View tab displays a graphic of the transponder that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Moving the mouse pointer over the graphic also displays the alarm counts.) The module status is displayed under Operational State. Right-clicking the graphic opens a shortcut menu that you can use to display the module in the Equipment Inventory Table, in the Alarm Browser, or in the Line Transponders PM Table.

D.5.7.2 Identification Tab

The Identification tab allows you to view and update transponder identification information.

Table D-285   Field Descriptions for the Identification Tab

Field	Description
NE ID	Displays the user-defined name of the NE where the transponder is installed.
Description	Displays information that a user has entered (if any) to describe the NE.
NE Model	Identifies the model of the selected NE (ONS 15808) where the transponder is installed.
Rack ID	Displays the identification number of the rack where the subrack containing the transponder is installed.
Subrack ID	Displays the identification number of the subrack.
Slot ID	Displays the identification number of the slot containing the transponder.

Table D-285   Field Descriptions for the Identification Tab (continued)

Field	Description
Software Version	Displays the version of the software.
BIOS Version	Displays the version number of the BIOS.
Board Serial Number	Displays the serial number of the board.
SCC Number	Displays the version of the module serial communication controller (SCC).
Product Option	Displays the product option. Displays Not Available if TL1 Agent version is earlier than version 2.1.
Hardware Version	Displays the version of the hardware. Displays Not Available if TL1 Agent version is earlier than version 2.1.
Line Direction	Shows the line direction for the transponder.
State	Allows you to place the transponder in one of two states: In Service or Under Maintenance.
PM Collection Status	Allows you to enable or disable PM collection for the transponder.

D.5.7.3 Temperature Tab

The Temperature tab allows you to assign performance monitoring thresholds for the transponder operating temperature.

Table D-286   Field Descriptions for the Temperature Tab

Field	Description
Laser 1	
Value	When the Update button is clicked, displays the current temperature of Laser 1 (in degrees Celsius).
Low	Sets the operating temperature low threshold, in degrees Celsius, and the alarm severity level.
High	Sets the operating temperature high threshold, in degrees Celsius, and the alarm severity level.

D.5.7.4 Quality of Service Tab

The Quality of Service tab allows you to assign thresholds and alarm severities for forward error correction (FEC) counters. Click the **15 min** radio button to assign thresholds for 15-minute collection increments. Click the **1 day** radio button to assign thresholds for 24-hour collection increments.

Table D-287   Field Descriptions for the Quality of Service Tab

Field	Description
FEC Counters	
Errored Seconds	Sets the high threshold for the number of FEC errored seconds (ES) and the alarm severity level. An errored second is a one-second period with one or more error blocks or at least one defect.
Severely Errored Seconds	Sets the high threshold for the number of FEC severely errored seconds (SES) and the alarm severity level. A severely errored second is a one-second period that contains at least 30% errored blocks or at least one defect.

Table D-287   Field Descriptions for the Quality of Service Tab (continued)

Field	Description
Background Block Errors	Sets the high threshold for the number of FEC background block errors (BBE) and the alarm severity level. An errored block is a block in which one or more bits are in error. A background block error is an errored block that does not occur as part of a severely errored second.
Unavailable Seconds	Sets the high threshold for the number of FEC unavailable seconds (UAS) and the alarm severity level. The detection of 10 consecutive SES begins a period of UAS. The 10 SES detected are part of the UAS. The ES and SES counters decrement by 10 seconds and the UAS counter increments by an equivalent number of seconds. A new period of available time begins at the onset of 10 consecutive non-SES events.
Error Corrected Rate	Sets the high threshold for the bit error corrected rate (ECR) and the alarm severity level. The ECR is the ratio of FEC bit errors corrected to bits transmitted.
Uncorrected Codewords Rate	Sets the high threshold for the uncorrected codeword rate (UCR) and the alarm severity level. The UCR is the ratio of uncorrected codewords to codewords transmitted. A codeword is a block of N symbols that carry K information symbols and R redundant symbols (N = K+R).

D.5.7.5 Current Tab

The Current tab allows you to assign thresholds and alarm severities for the transponder laser current levels.

Table D-288   Field Descriptions for the Current Tab

Field	Description
Laser 1	
Value	When the Update button is clicked, displays the current value of the Laser 1 current (in mA).
Degrade	Sets the degrade threshold for the Laser 1 current, in mA, and the alarm severity level.
Fail	Sets the failure threshold for the Laser 1 current, in mA, and the alarm severity level.

D.5.7.6 Power Tab

The Power tab allows you to assign thresholds and alarm severities for the transponder laser power levels.

Table D-289   Field Descriptions for the Power Tab

Field	Description
Laser 1	
Value	When the Update button is clicked, displays the current power of Laser 1 (in mW).
Low	Sets the low threshold for the Laser 1 power, in mW, and the alarm severity level.
High	Sets the high threshold for the Laser 1 power, in mW, and the alarm severity level.

D.5.7.7 Input Power Tab

The Input Power tab allows you to assign thresholds and alarm severities for the power coming into the transponder lasers.

Table D-290   Field Descriptions for the Input Power Tab

Field	Description
Input Power 1	
Value	When the Update button is clicked, displays the current transponder input power (in dBm).
Low	Sets the low threshold for the input power, in dBm, and the alarm severity level.
High	Sets the high threshold for the input power, in dBm, and the alarm severity level.
Fail	Sets the failure threshold for the input power, in dBm, and the alarm severity level.

D.5.7.8 Output Power Tab

The Output Power tab allows you to assign thresholds and alarm severities for the transponder output power.

Table D-291   Field Descriptions for the Output Power Tab

Field	Description
Output Power 1	
Value	When the Update button is clicked, displays the current transponder output power (in dBm).
Low	Sets the low threshold for the output power, in dBm, and the alarm severity level.
High	Sets the high threshold for the output power, in dBm, and the alarm severity level.
Fail	Sets the failure threshold for the output power, in dBm, and the alarm severity level.

D.5.7.9 Action Tab

The Action tab allows you to force the ONS 15808 optical output power.

Table D-292   Field Descriptions for the Action Tab

Field	Description
Output Power Setting	
Force Optical Output Power	Allows you to activate the output power control mode on the FEC transponder and force the transponder to regulate the optical output power. An improper setting of the transponder output power level could affect either of the following: • The equalization of the channel downstream from the optical line, the optical channel S/N in fiber, and at the end of the optical line. • The optical channel power at the end of the optical line.

Note   See Table 1-20 on page 1-44 for descriptions of actions that can be performed using the buttons at the bottom of the window.

D.5.8 Slot Properties—RT

The Slot Properties pane displays information about the Cisco ONS 15808 module that is installed in the slot selected in the NE Explorer tree. Use this properties pane to change the module performance monitoring thresholds.

The receiver transponder is used in terminal sites (receive direction) and in OADM sites to retime, reshape, and regenerate 2.5 Gbps and 10 Gbps low-input signals. Receiver transponders perform 3R regeneration of optical signals and provide quality parameters based on forward error correction (FEC) overhead and client signal validation parameters. Receiver transponders perform out-of-band (OOB) FEC decoding and error correction for transport signals, which are transmitted to SONET- or SDH-compliant client equipment. The interface complies with Bellcore GR-253 and ITU-T G.957 SONET and SDH physical interface specifications.

A block diagram is shown in the following figure.

Figure D-14   Cisco ONS 15808 Receiver Transponder
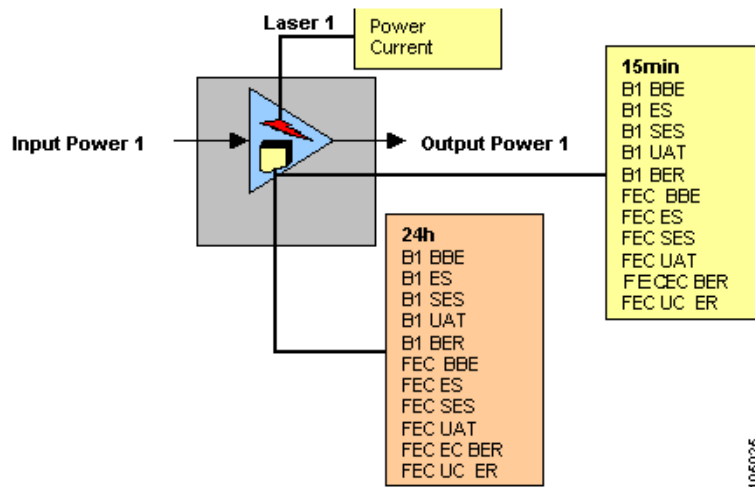
Receiver transponders shown on this sheet include:

- Receive Transponder–2.5 Gbps–C band–FEC Coding (RT-25G-Cxx)
- Receive Transponder–10 Gbps–C band–FEC Coding (RT-10G-Cxx)
- Receive Transponder–10 Gbps–C band–Single Slot 1300 nm (RT-10G-13Cxx)
- Receive Transponder–10 Gbps–L band–Single Slot 1300 nm (RT-10G-13Lxx)
- Receive Transponder–10 Gbps–C band–Single Slot–FEC Coding (RT-10G-SCxx)
- Receive Transponder–10 Gbps–L band–Single Slot–FEC Coding (RT-10G-SLxx)

For ONS 15808 receiver transponders, the Slot Properties pane displays the following tabs: Module View, Identification, Quality of Service, Current, Power, Input Power, and Output Power.

D.5.8.1 Module View Tab

The Module View tab displays a graphic of the transponder that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Moving the mouse pointer over the graphic also displays the alarm counts.) The module status is displayed under

Operational State. Right-clicking the graphic opens a shortcut menu that you can use to display the module in the Equipment Inventory Table, in the Alarm Browser, or in the Receiver Transponders PM Table.

D.5.8.2 Identification Tab

The Identification tab allows you to view and update transponder identification information.

Table D-293   Field Descriptions for the Identification Tab

Field	Description
NE ID	Displays the user-defined name of the NE where the transponder is installed.
Description	Displays information that a user has entered (if any) to describe the NE.
NE Model	Identifies the model of the selected NE (ONS 15808) where the transponder is installed.
Rack ID	Displays the identification number of the rack where the subrack containing the transponder is installed.
Subrack ID	Displays the identification number of the subrack.
Slot ID	Displays the identification number of the slot containing the transponder.
Software Version	Displays the version of the software.
BIOS Version	Displays the version number of the BIOS.
Board Serial Number	Displays the serial number of the board.
SCC Number	Displays the version of the module serial communication controller (SCC).
Product Option	Displays the product option. Displays Not Available if TL1 Agent version is earlier than version 2.1.
Hardware Version	Displays the version of the hardware. Displays Not Available if TL1 Agent version is earlier than version 2.1.
Line Direction	Shows the line direction for the transponder.
State	Allows you to place the transponder in one of two states: In Service or Under Maintenance.
PM Collection Status	Allows you to enable or disable PM collection for the transponder.

D.5.8.3 Quality of Service Tab

The Quality of Service tab allows you to assign thresholds and alarm severities for B1 and forward error correction (FEC) counters. Click the **15 min** radio button to assign thresholds for 15-minute collection increments. Click the **1 day** radio button to assign thresholds for 24-hour collection increments.

Table D-294   Field Descriptions for the Quality of Service Tab

Field	Description
B1 Counters	
Errored Seconds	Sets the high threshold for the number of B1 errored seconds (ES) and the alarm severity level. An errored second is a one-second period with one or more error blocks or at least one defect.
Severely Errored Seconds	Sets the high threshold for the number of B1 severely errored seconds (SES) and the alarm severity level. A severely errored second is a one-second period that contains at least 30% errored blocks or at least one defect.

Table D-294   Field Descriptions for the Quality of Service Tab (continued)

Field	Description
Background Block Errors	Sets the high threshold for the number of B1 background block errors (BBE) and the alarm severity level. An errored block is a block in which one or more bits are in error. A background block error is an errored block that does not occur as part of a severely errored second.
Bit Error Rate	Sets the high threshold for the B1 bit error rate and the alarm severity level. The BER is the ratio of received bits that contain errors.
Unavailable Seconds	Sets the high threshold for the number of B1 unavailable seconds (UAS) and the alarm severity level. The detection of 10 consecutive SES begins a period of UAS. The 10 SES detected are part of the UAS. The ES and SES counters decrement by 10 seconds and the UAS counter increments by an equivalent number of seconds. A new period of available time begins at the onset of 10 consecutive non-SES events.
FEC Counters	
Errored Seconds	Sets the high threshold for the number of FEC errored seconds (ES) and the alarm severity level.
Severely Errored Seconds	Sets the high threshold for the number of FEC severely errored seconds (SES) and the alarm severity level.
Background Block Errors	Sets the high threshold for the number of FEC background block errors (BBE) and the alarm severity level.
Unavailable Seconds	Sets the high threshold for the number of FEC unavailable seconds (UAS) and the alarm severity level. The detection of 10 consecutive SES begins a period of UAS. The 10 SES detected are part of the UAS. The ES and SES counters decrement by 10 seconds and the UAS counter increments by an equivalent number of seconds. A new period of available time begins at the onset of 10 consecutive non-SES events.
Error Corrected Rate	Sets the high threshold for the bit error corrected rate (ECR) and the alarm severity level. The ECR is the ratio of FEC bit errors corrected to bits transmitted.
Uncorrected Codewords Rate	Sets the high threshold for the uncorrected codeword rate (UCR) and the alarm severity level. The UCR is the ratio of uncorrected codewords to codewords transmitted. A codeword is a block of N symbols that carry K information symbols and R redundant symbols (N = K+R).

D.5.8.4 Current Tab

The Current tab allows you to assign thresholds and alarm severities for the transponder laser current levels.

Table D-295   Field Descriptions for the Current Tab

Field	Description
Laser 1	
Value	When the Update button is clicked, displays the current value of the Laser 1 current (in mA).
Degrade	Sets the degrade threshold for the Laser 1 current, in mA, and the alarm severity level.
Fail	Sets the failure threshold for the Laser 1 current, in mA, and the alarm severity level.

D.5.8.5 Power Tab

The Power tab allows you to assign thresholds and alarm severities for the transponder laser power levels.

Table D-296   Field Descriptions for the Power Tab

Field	Description
Laser 1	
Value	When the Update button is clicked, displays the current power of Laser 1 (in mW).
Low	Sets the low threshold for the Laser 1 power, in mW, and the alarm severity level.
High	Sets the high threshold for the Laser 1 power, in mW, and the alarm severity level.

D.5.8.6 Input Power Tab

The Input Power tab allows you to assign thresholds and alarm severities for the power coming into the transponder lasers.

Table D-297   Field Descriptions for the Input Power Tab

Field	Description
Input Power 1	
Value	When the Update button is clicked, displays the current transponder input power (in dBm).
Low	Sets the low threshold for the input power, in dBm, and the alarm severity level.
High	Sets the high threshold for the input power, in dBm, and the alarm severity level.
Fail	Sets the failure threshold for the input power, in dBm, and the alarm severity level.

D.5.8.7 Output Power Tab

The Output Power tab allows you to assign thresholds and alarm severities for the transponder output power.

Table D-298   Field Descriptions for the Output Power Tab

Field	Description
Output Power 1	
Value	When the Update button is clicked, displays the current transponder output power (in dBm).
Low	Sets the low threshold for the output power, in dBm, and the alarm severity level.
High	Sets the high threshold for the output power, in dBm, and the alarm severity level.
Fail	Sets the failure threshold for the output power, in dBm, and the alarm severity level.

Note   See Table 1-20 on page 1-44 for descriptions of actions that can be performed using the buttons at the bottom of the window.
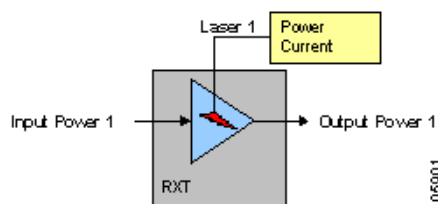
D.5.9 Slot Properties—RXT

The Slot Properties pane displays information about the Cisco ONS 15800 or ONS 15801 module that is installed in the slot selected in the NE Explorer tree. Use this properties pane to change the module performance monitoring thresholds.

Cisco ONS 15800 and ONS 15801 Receive Transponder (RXT) modules are used in Cisco ONS 15800 and ONS 15801 terminal sites to retime, reshape, and regenerate low input demultiplexed signals.

A block diagram is shown in the following figure.

Figure D-15   Cisco ONS 15800 or ONS 15801 Receive Transponder

RXT modules shown on this sheet include:

*   Receive Transponder–Directly Modulated–Normal module (RXT-DM-N)
*   Receive Transponder–622 Mbps–Normal module (RXT-622-N)

For these RXT modules, the Slot Properties pane displays the following tabs: Module View, Identification, Current, Power, Input Power, and Output Power.

D.5.9.1 Module View Tab

The Module View tab displays a graphic of the transponder that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Moving the mouse cursor over the graphic also displays the alarm counts.) The module status is displayed under Operational State. Right-clicking the graphic opens a shortcut menu that you can use to display the module in the Equipment Inventory Table, in the Alarm Browser, or in the RXT PM Table.

D.5.9.2 Identification Tab

The Identification tab allows you to view and update receive transponder identification information.

Table D-299   Field Descriptions for the Identification Tab

Field	Description
NE ID	Displays the user-defined name of the NE where the receive transponder is installed.
Description	Displays information that a user has entered (if any) to describe the NE.
NE Model	Identifies the model of the selected NE (ONS 15800 or ONS 15801) where the receive transponder is installed.
Rack ID	Displays the identification number of the rack where the subrack containing the receive transponder is installed.
Subrack ID	Displays the identification number of the subrack containing the receive transponder.

Table D-299   Field Descriptions for the Identification Tab (continued)

Field	Description
Slot ID	Displays the identification number of the slot containing the receive transponder.
Software Version	Displays the version of the software.
BIOS Version	Displays the version number of the BIOS.
Board Serial Number	Displays the serial number of the board.
SCC Number	Displays the version of the module serial communication controller (SCC).
Product Option	Displays the product option. Displays "Not Available" if the TL1 Agent version is earlier than version 2.1.
Hardware Version	Displays the version of the hardware. Displays "Not Available" if the TL1 Agent version is earlier than version 2.1.
Line Direction	Shows the line direction for the receive transponder.
State	Allows you to place the receive transponder in one of two states: In Service or Under Maintenance.
PM Collection Status	Allows you to enable or disable PM data collection for the receive transponder.

D.5.9.3 Current Tab

The Current tab allows you to assign performance monitoring thresholds for the receive transponder Laser 1 current levels.

Table D-300   Field Descriptions for the Current Tab

Field	Description
Laser 1 Current	
Value	When the **Update** button is clicked, displays the current of the receive transponder.
Degrade	Sets the degrade threshold for the Laser 1 current (in mA) and the alarm severity level.
Fail	Sets the failure threshold for the Laser 1 current (in mA) and the alarm severity level.

D.5.9.4 Power Tab

The Power tab allows you to assign performance monitoring thresholds for the receive transponder Laser 1 power levels.

Table D-301   Field Descriptions for the Power Tab

Field	Description
Laser 1 Power	
Value	When the **Update** button is clicked, displays the current power of Laser 1.
Low	Sets the low threshold for the Laser 1 power (in mW) and the alarm severity level.
High	Sets the high threshold for the Laser 1 power (in mW) and the alarm severity level.

D.5.9.5 Input Power Tab

The Input Power tab allows you to assign performance monitoring thresholds for the power entering the receive transponder.

Table D-302   Field Descriptions for the Input Power Tab

| Field	Description
Input Power	
Value	When the **Update** button is clicked, displays the current receive transponder input power.
Low	Sets the low threshold for the receive transponder input power in dBm and the alarm severity level.
High	Sets the high threshold for the receive transponder input power (in dBm) and the alarm severity level.

D.5.9.6 Output Power Tab

The Output Power tab allows you to assign performance monitoring thresholds for the receive transponder output power.

Table D-303   Field Descriptions for the Output Power Tab

Field	Description
Output Power	
Value	When the **Update** button is clicked, displays the current receive transponder output power.
Low	Sets the low threshold for the receive transponder output power (in dBm) and the alarm severity level.
High	Sets the high threshold for the receive transponder output power (in dBm) and the alarm severity level.

D.5.10 Slot Properties—RXT-10G-N

The Slot Properties pane displays information about the directly modulated Receive Transponder–10 Gbps–Normal (RXT-10G-N) module that is installed in the slot selected in the NE Explorer tree. Use this properties pane to change the module performance monitoring thresholds.

A block diagram is shown in the following figure.

Figure D-16   Cisco ONS 15800 or ONS 15801 Receive Transponder–10 Gbps–Normal
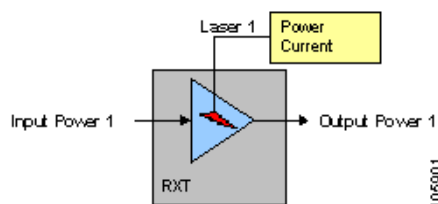
For the RXT-10G-N module, the Slot Properties pane displays the following tabs: Module View, Identification, Current, Power, Input Power, and Output Power. Fields on these tabs are described in the following sections.

D.5.10.1 Module View Tab

The Module View tab displays a graphic of the transponder that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Moving the mouse pointer over the graphic also displays the alarm counts.) The module status is displayed under Operational State. Right-clicking the graphic opens a shortcut menu that you can use to display the module in the Alarm Browser or in the Equipment Inventory Table.

D.5.10.2 Identification Tab

The Identification tab allows you to view and update receive transponder identification information.

Table D-304   Field Descriptions for the Identification Tab

Field	Description
NE ID	Displays the user-defined name of the NE where the receive transponder is installed.
Description	Displays information that a user has entered (if any) to describe the NE.
NE Model	Identifies the model of the selected NE (ONS 15800 or ONS 15801) where the receive transponder is installed.
Rack ID	Displays the identification number of the rack where the subrack containing the receive transponder is installed.
Subrack ID	Displays the identification number of the subrack.
Slot ID	Displays the identification number of the slot containing the receive transponder.
Software Version	Displays the version of the software.
BIOS Version	Displays the version number of the BIOS.
Board Serial Number	Displays the serial number of the board.
SCC Number	Displays the version of the module serial communication controller (SCC).
Product Option	Displays the product option. Displays "Not Available" if the TL1 Agent version is earlier than version 2.1.
Hardware Version	Displays the version of the hardware. Displays "Not Available" if the TL1 Agent version is earlier than version 2.1.
Line Direction	Shows the line direction for the receive transponder.
State	Allows you to place the receive transponder in one of two states: In Service or Under Maintenance.
PM Collection Status	Allows you to enable or disable PM data collection for the receive transponder.

D.5.10.3 Current Tab

The Current tab allows you to assign performance monitoring thresholds for the receive transponder Laser 1 current levels.

Table D-305   Field Descriptions for the Current Tab

Field	Description
Laser 1 Current	
Value	When the **Update** button is clicked, displays the Laser 1 current of the receive transponder.
Degrade	Sets the degrade threshold for the Laser 1 current (in mA) and the alarm severity level.
Fail	Sets the failure threshold for the Laser 1 current (in mA) and the alarm severity level.

D.5.10.4 Power Tab

The Power tab allows you to assign performance monitoring thresholds for the receive transponder Laser 1 power levels.

Table D-306   Field Descriptions for the Power Tab

Field	Description
Laser 1 Current	
Value	When the **Update** button is clicked, displays the current power of Laser 1.
Low	Sets the low threshold for the Laser 1 power (in mW) and the alarm severity level.
High	Sets the high threshold for the Laser 1 power (in mA) and the alarm severity level.

D.5.10.5 Input Power Tab

The Input Power tab allows you to assign performance monitoring thresholds for the power coming into the receive transponder.

Table D-307   Field Descriptions for the Input Power Tab

Field	Description
Input Power	
Value	When the **Update** button is clicked, displays the current receive transponder input power.
Fail	Sets the fail threshold for the receive transponder input power in dBm and the alarm severity level.
Degrade	Sets the degrade threshold for the receive transponder input power (in dBm) and the alarm severity level.

D.5.10.6 Output Power Tab

The Output Power tab allows you to assign performance monitoring thresholds for the receive transponder output power.

Table D-308   Field Descriptions for the Output Power Tab

Field	Description
Output Power	
Value	When the **Update** button is clicked, displays the current receive transponder output power.

Table D-308   Field Descriptions for the Output Power Tab (continued)

| Field	Description
Low	Sets the low threshold for the receive transponder output power (in dBm) and the alarm severity level.
High	Sets the high threshold for the receive transponder output power (in dBm) and the alarm severity level.

Note   for descriptions of actions that can be performed using the buttons at the bottom of the window.

D.5.11 Slot Properties—RXT-10H-M

The Slot Properties pane displays information about the Receive Transponder–10 Gbps High Sensitivity–B1 Monitoring (RXT-10H-M) module that is installed in the slot selected in the NE Explorer tree. Use this properties pane to change the module performance monitoring thresholds.

A block diagram is shown in the following figure.

Figure D-17   Cisco ONS 15800 or ONS 15801 Receive Transponder–10 Gbps High Sensitivity–B1 Monitoring
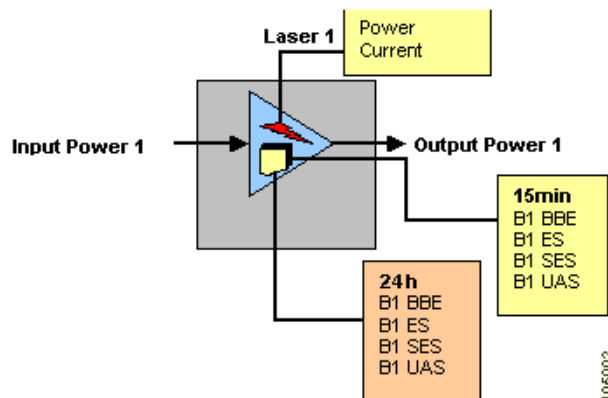
For the RXT-10H-M module, the Slot Properties pane displays the following tabs: Module View, Quality of Service, Current, Power, Input Power, and Output Power. Fields on these tabs are described in the following sections.

D.5.11.1 Module View Tab

The Module View tab displays a graphic of the transponder that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Moving the mouse cursor over the graphic also displays the alarm counts.) The module status is displayed under Operational State. Right-clicking the graphic opens a shortcut menu that you can use to display the module in the Alarm Browser, in the Equipment Inventory Table, or in the B1 RXT PM Table.

D.5.11.2 Identification Tab

The Identification tab allows you to view and update receive transponder identification information.

Table D-309   Field Descriptions for the Identification Tab

Field	Description
NE ID	Displays the user-defined name of the NE where the receive transponder is installed.
Description	Displays information that a user has entered (if any) to describe the NE.
NE Model	Identifies the model of the selected NE (ONS 15800 or ONS 15801) where the receive transponder is installed.
Rack ID	Displays the identification number of the rack where the subrack containing the receive transponder is installed.
Subrack ID	Displays the identification number of the subrack containing the receive transponder.
Slot ID	Displays the identification number of the slot containing the receive transponder.
Software Version	Displays the version of the software.
BIOS Version	Displays the version number of the BIOS.
Board Serial Number	Displays the serial number of the board.
SCC Number	Displays the version of the module serial communication controller (SCC).
Product Option	Displays the product option. Displays "Not Available" if the TL1 Agent version is earlier than version 2.1.
Hardware Version	Displays the version of the hardware. Displays "Not Available" if the TL1 Agent version is earlier than version 2.1.
Line Direction	Shows the line direction for the receive transponder.
State	Allows you to place the receive transponder in one of two states: In Service or Under Maintenance.
PM Collection State	Allows you to enable or disable PM data collection for the receive transponder.

D.5.11.3 Quality of Service Tab

The Quality of Service tab allows you to assign thresholds and alarm severities for B1 counters. Click the **15 min** radio button to assign thresholds for 15-minute collection increments. Click the **1 day** radio button to assign thresholds for 24-hour collection increments.

Table D-310   Field Descriptions for the Quality of Service Tab

Field	Description
B1 Counters	
Errored Seconds	Sets the high threshold for the number of B1 errored seconds (ES) and the alarm severity level. An errored second is a one-second period with one or more error blocks or at least one defect.
Severely Errored Seconds	Sets the high threshold for the number of B1 severely errored seconds (SES) and the alarm severity level. A severely errored second is a one-second period that contains at least 30 percent of errored blocks or at least one defect.

Table D-310   Field Descriptions for the Quality of Service Tab (continued)

Field	Description
Background Block Errors	Sets the high threshold for the number of B1 background block errors (BBE) and the alarm severity level. An errored block is a block in which one or more bits are in error. A background block error is an errored block that does not occur as part of a severely errored second.
Unavailable Seconds	Sets the high threshold for the number of B1 unavailable seconds (UAS) and the alarm severity level. The detection of 10 consecutive SES begins a period of UAS. The 10 SES detected are part of the UAS. The ES and SES counters decrement by 10 seconds and the UAS counter increments by an equivalent number of seconds. A new period of available time begins at the onset of 10 consecutive non-SES events.

D.5.11.4 Current Tab

The Current tab allows you to assign performance monitoring thresholds for the receive transponder Laser 1 current levels.

Table D-311   Field Descriptions for the Current Tab

Field	Description
Laser 1 Current	
Value	When the **Update** button is clicked, displays the Laser 1 current of the receive transponder.
Degrade	Sets the degrade threshold for the Laser 1 current (in mA) and the alarm severity level.
Fail	Sets the failure threshold for the Laser 1 current (in mA) and the alarm severity level.

D.5.11.5 Power Tab

The Power tab allows you to assign performance monitoring thresholds for the receive transponder Laser 1 power levels.

Table D-312   Field Descriptions for the Power Tab

Field	Description
Laser 1 Power	
Value	When the **Update** button is clicked, displays the current power of Laser 1.
Low	Sets the low threshold for the Laser 1 power (in mW) and the alarm severity level.
High	Sets the high threshold for the Laser 1 power (in mA) and the alarm severity level.

D.5.11.6 Input Power Tab

The Input Power tab allows you to assign performance monitoring thresholds for the power coming into the receive transponder.

Table D-313   Field Descriptions for the Input Power Tab

Field	Description
Input Power	
Value	When the **Update** button is clicked, displays the current receive transponder input power.
Fail	Sets the fail threshold for the receive transponder input power (in dBm) and the alarm severity level.
Degrade	Sets the degrade threshold for the receive transponder input power (in dBm) and the alarm severity level.

D.5.11.7 Output Power Tab

The Output Power tab allows you to assign performance monitoring thresholds for the receive transponder output power.

Table D-314   Field Descriptions for the Output Power Tab

| Field	Description
Output Power	
Value	When the **Update** button is clicked, displays the current receive transponder output power.
Low	Sets the low threshold for the receive transponder output power (in dBm) and the alarm severity level.
High	Sets the high threshold for the receive transponder output power (in dBm) and the alarm severity level.

D.5.12 Slot Properties—RXT-B1

The Slot Properties pane displays information about the Cisco ONS 15800 or ONS 15801 module that is installed in the slot selected in the NE Explorer tree. Use this properties pane to change the module performance monitoring thresholds.

ONS 15800 and ONS 15801 receive transponder (RXT) modules are used in ONS 15800 and ONS 15801 terminal sites to retime, reshape, and regenerate low input demultiplexed signals.

A block diagram is shown in the following figure.

Figure D-18   Cisco ONS 15800 or ONS 15801 Receive Transponder–B1 Monitoring
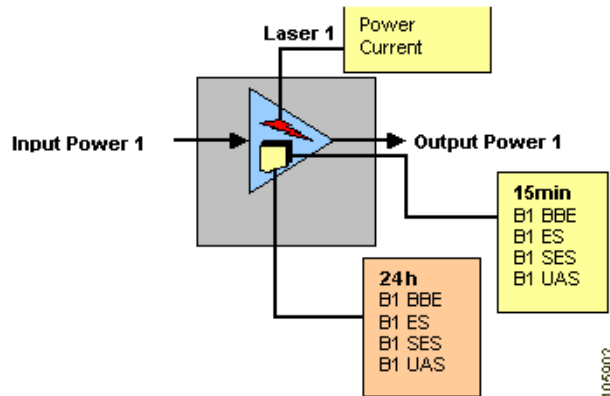
RXTs shown on this sheet include:

- Receive Transponder–Directly Modulated–B1 Monitoring module (RXT-DM-M)
- Receive Transponder–Directly Modulated Long-Haul–B1 Monitoring module (RXT-DMLH-M)

For these RXT modules, the Slot Properties pane displays the following tabs: Module View, Identification, Quality of Service, Current, Power, Input Power, and Output Power.

D.5.12.1 Module View Tab

The Module View tab displays a graphic of the transponder that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Moving the mouse pointer over the graphic also displays the alarm counts.) The module status is displayed under Operational State. Right-clicking the graphic opens a shortcut menu that you can use to display the module in the Alarm Browser, in the Equipment Inventory Table, or in the B1 RXT PM Table.

D.5.12.2 Identification Tab

The Identification tab allows you to view and update receive transponder identification information.

Table D-315   Field Descriptions for the Identification Tab

Field	Description
NE ID	Displays the user-defined name of the NE where the receive transponder is installed.
Description	Displays information that a user has entered (if any) to describe the NE.
NE Model	Identifies the model of the selected NE (ONS 15800 or ONS 15801) where the receive transponder is installed.
Rack ID	Displays the identification number of the rack where the subrack containing the receive transponder is installed.
Subrack ID	Displays the identification number of the subrack containing the receive transponder.
Slot ID	Displays the identification number of the slot containing the receive transponder.
Software Version	Displays the version of the software.
BIOS Version	Displays the version number of the BIOS.

Table D-315   Field Descriptions for the Identification Tab (continued)

Field	Description
Board Serial Number	Displays the serial number of the board.
SCC Number	Displays the SCC number.
Product Option	Displays the product option. Displays "Not Available" if the TL1 Agent version is earlier than version 2.1.
Hardware Version	Displays the version of the hardware. Displays "Not Available" if the TL1 Agent version is earlier than version 2.1.
Line Direction	Shows the line direction for the receive transponder.
State	Allows you to place the receive transponder in one of two states: In Service or Under Maintenance.
PM Collection Status	Allows you to enable or disable PM data collection for the receive transponder.

D.5.12.3 Quality of Service Tab

The Quality of Service tab allows you to assign thresholds and alarm severities for B1 counters. Click the **15 min** radio button to assign thresholds for 15-minute collection increments. Click the **1 day** radio button to assign thresholds for 24-hour collection increments.

Table D-316   Field Descriptions for the Quality of Service Tab

Field	Description
B1 Counters	
Errored Seconds	Sets the high threshold for the number of B1 errored seconds (ES) and the alarm severity level. An errored second is a one-second period with one or more error blocks or at least one defect.
Severely Errored Seconds	Sets the high threshold for the number of B1 severely errored seconds (SES) and the alarm severity level. A severely errored second is a one-second period that contains at least 30 percent of errored blocks or at least one defect.
Background Block Errors	Sets the high threshold for the number of B1 background block errors (BBE) and the alarm severity level. An errored block is a block in which one or more bits are in error. A background block error is an errored block that does not occur as part of a severely errored second.
Unavailable Seconds	Sets the high threshold for the number of B1 unavailable seconds (UAS) and the alarm severity level. The detection of 10 consecutive SES begins a period of UAS. The 10 SES detected are part of the UAS. The ES and SES counters decrement by 10 seconds and the UAS counter increments by an equivalent number of seconds. A new period of available time begins at the onset of 10 consecutive non-SES events.

D.5.12.4 Current Tab

The Current tab allows you to assign performance monitoring thresholds for the receive transponder Laser 1 current levels.

Table D-317   Field Descriptions for the Current Tab

Field	Description
Laser 1 Current	
Value	When the **Update** button is clicked, displays the Laser 1 current of the receive transponder.

Table D-317   Field Descriptions for the Current Tab (continued)

Field	Description
Degrade	Sets the degrade threshold for the Laser 1 current (in mA) and the alarm severity level.
Fail	Sets the failure threshold for the Laser 1 current (in mA) and the alarm severity level.

D.5.12.5 Power Tab

The Power tab allows you to assign performance monitoring thresholds for the receive transponder Laser 1 power levels.

Table D-318   Field Descriptions for the Power Tab

Field	Description
Laser 1 Power	
Value	When the **Update** button is clicked, displays the current power of Laser 1.
Low	Sets the low threshold for the Laser 1 power (in mW) and the alarm severity level.
High	Sets the high threshold for the Laser 1 power (in mW) and the alarm severity level.

D.5.12.6 Input Power Tab

The Input Power tab allows you to assign performance monitoring thresholds for the power coming into the receive transponder.

Table D-319   Field Descriptions for the Input Power Tab

Field	Description
Input Power 1	
Value	When the **Update** button is clicked, displays the current receive transponder input power.
Low	Sets the low threshold for the receive transponder input power in dBm and the alarm severity level.
High	Sets the high threshold for the receive transponder input power (in dBm) and the alarm severity level.

D.5.12.7 Output Power Tab

The Output Power tab allows you to assign performance monitoring thresholds for the receive transponder output power.

Table D-320   Field Descriptions for the Output Power Tab

Field	Description
Output Power 1	
Value	When the **Update** button is clicked, displays the current receive transponder output power.
Low	Sets the low threshold for the receive transponder output power (in dBm) and the alarm severity level.
High	Sets the high threshold for the receive transponder output power (in dBm) and the alarm severity level.

Note   See Table 1-20 on page 1-44 for descriptions of actions that can be performed using the buttons at the bottom of the window.

D.5.13 Slot Properties—RXT-FEC

The Slot Properties pane displays information about the Cisco ONS 15800 or ONS 15801 module that is installed in the slot selected in the NE Explorer tree. Use this properties pane to change the module performance monitoring thresholds.

Receive transponder-forward error correction (RXT-FEC) modules are used in ONS 15800 and ONS 15801 terminal sites to retime, reshape, and regenerate low input demultiplexed signals.

RXT modules shown on this sheet include:

- Receive Transponder–Directly Modulated–Forward Error Correction (RXT-DM-F) 2.5 Gbps module
- Receive Transponder–10 Gbps–Forward Error Correction (RXT-10G-F) module

For FEC RXT modules, the Slot Properties pane displays the following tabs: Module View, Identification, Quality of Service, Current, Power, Input Power, and Output Power.

D.5.13.1 Module View Tab

The Module View tab displays a graphic of the transponder that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Moving the mouse pointer over the graphic also displays the alarm counts.) The module status is displayed under Operational State. Right-clicking the graphic opens a shortcut menu that you can use to display the module in the Alarm Browser, in the Equipment Inventory Table, or in the FEC RXT PM Table.

D.5.13.2 Identification Tab

The Identification tab allows you to view and update receive transponder identification information.

Table D-321   Field Descriptions for the Identification Tab

Field	Description
NE ID	Displays the user-defined name of the NE where the receive transponder is installed.
Description	Displays information that a user has entered (if any) to describe the NE.
NE Model	Identifies the model of the selected NE (ONS 15800 or ONS 15801) where the receive transponder is installed.
Rack ID	Displays the identification number of the rack where the subrack containing the receive transponder is installed.
Subrack ID	Displays the identification number of the subrack containing the receive transponder.
Slot ID	Displays the identification number of the slot containing the receive transponder.
Software Version	Displays the version of the software.
BIOS Version	Displays the version number of the BIOS.
Board Serial Number	Displays the serial number of the board.

Table D-321   Field Descriptions for the Identification Tab (continued)

Field	Description
SCC Number	Displays the version of the module serial communication controller (SCC).
Product Option	Displays the product option. Displays "Not Available" if the TL1 Agent version is earlier than version 2.1.
Hardware Version	Displays the version of the hardware. Displays "Not Available" if the TL1 Agent version is earlier than version 2.1.
Line Direction	Shows the line direction for the receive transponder.
State	Allows you to place the receive transponder in one of two states: In Service or Under Maintenance.
PM Collection Status	Allows you to enable or disable PM data collection for the receive transponder.

D.5.13.3 Quality of Service Tab

The Quality of Service tab allows you to assign thresholds and alarm severities for B1 and forward error correction (FEC) counters. Click the **15 min** radio button to assign thresholds for 15-minute collection increments. Click the **1 day** radio button to assign thresholds for 24-hour collection increments.

Table D-322   Field Descriptions for the Quality of Service Tab

Field	Description
B1 Counters	
Errored Seconds	Sets the high threshold for the number of B1 errored seconds (ES) and the alarm severity level. An errored second is a one-second period with one or more error blocks or at least one defect.
Severely Errored Seconds	Sets the high threshold for the number of B1 severely errored seconds (SES) and the alarm severity level. A severely errored second is a one-second period that contains at least 30 percent of errored blocks or at least one defect.
Background Block Errors	Sets the high threshold for the number of B1 background block errors (BBE) and the alarm severity level. An errored block is a block in which one or more bits are in error. A background block error is an errored block that does not occur as part of a severely errored second.
Bit Error Rate	Sets the high threshold for the B1 bit error rate (BER) and the alarm severity level. The BER is the ratio of received bits that contain errors.
Unavailable Seconds	Sets the high threshold for the number of B1 unavailable seconds (UAS) and the alarm severity level. The detection of 10 consecutive SES begins a period of UAS. The 10 SES detected are part of the UAS. The ES and SES counters decrement by 10 seconds and the UAS counter increments by an equivalent number of seconds. A new period of available time begins at the onset of 10 consecutive non-SES events.
FEC Counters	
Errored Seconds	Sets the high threshold for the number of FEC ES and the alarm severity level.
Severely Errored Seconds	Sets the high threshold for the number of FEC SES and the alarm severity level.
Background Block Errors	Sets the high threshold for the number of FEC BBE and the alarm severity level.

Table D-322   Field Descriptions for the Quality of Service Tab (continued)

Field	Description
Unavailable Seconds	Sets the high threshold for the number of FEC UAS and the alarm severity level. The detection of 10 consecutive SES begins a period of UAS. The 10 SES detected are part of the UAS. The ES and SES counters decrement by 10 seconds and the UAS counter increments by an equivalent number of seconds. A new period of available time begins at the onset of 10 consecutive non-SES events.
Error Corrected Rate	Sets the high threshold for the bit error corrected rate (ECR) and the alarm severity level. The ECR is the ratio of FEC bit errors corrected to bits transmitted.
Uncorrected Codewords Rate	Sets the high threshold for the uncorrected codeword rate (UCR) and the alarm severity level. The UCR is the ratio of uncorrected codewords to codewords transmitted. A codeword is a block of N symbols that carry K information symbols and R redundant symbols (N = K+R).

D.5.13.4 Current Tab

The Current tab allows you to assign performance monitoring thresholds for the receive transponder Laser 1 current levels.

Table D-323   Field Descriptions for the Current Tab

Field	Description
Laser 1 Current	
Value	When the **Update** button is clicked, displays the Laser 1 current of the receive transponder.
Degrade	Sets the degrade threshold for the Laser 1 current (in mA) and the alarm severity level.
Fail	Sets the failure threshold for the Laser 1 current (in mA) and the alarm severity level.

D.5.13.5 Power Tab

The Power tab allows you to assign performance monitoring thresholds for the receive transponder Laser 1 power levels.

Table D-324   Field Descriptions for the Power Tab

Field	Description
Laser Power	
Value	When the **Update** button is clicked, displays the current power of Laser 1.
Low	Sets the low threshold for the Laser 1 power (in mW) and the alarm severity level.
High	Sets the high threshold for the Laser 1 power (in mW) and the alarm severity level.

D.5.13.6 Input Power Tab

The Input Power tab allows you to assign performance monitoring thresholds for the power coming into the receive transponder.

Table D-325   Field Descriptions for the Input Power Tab

Field	Description
Input Power	
Value	When the **Update** button is clicked, displays the current receive transponder input power.
Low	Sets the low threshold for the receive transponder input power in dBm and the alarm severity level.
High	Sets the high threshold for the receive transponder input power (in dBm) and the alarm severity level.
Fail	Sets the failure threshold for the receive transponder input power (in dBm) and the alarm severity level.

D.5.13.7 Output Power Tab

The Output Power tab allows you to assign performance monitoring thresholds for the receive transponder output power.

Table D-326   Field Descriptions for the Output Power Tab

Field	Description
Output Power	
Value	When the **Update** button is clicked, displays the current receive transponder output power.
Low	Sets the low threshold for the receive transponder output power (in dB) and the alarm severity level.
High	Sets the high threshold for the receive transponder output power (in dB) and the alarm severity level.
Fail	Sets the failure threshold for the receive transponder output power (in dB) and the alarm severity level.

Note   See Table 1-20 on page 1-44 for descriptions of actions that can be performed using the buttons at the bottom of the window.

D.5.14 Slot Properties—Transmitter Transponder

The Slot Properties pane displays information about the Cisco ONS 15808 module that is installed in the slot selected in the NE Explorer tree. Use this properties pane to change the module performance monitoring thresholds.

The transmitter transponder performs 3R regeneration of the 2.5 Gbps and 10 Gbps optical signal and provides client signal validation parameters. The module transposes input client signals to appropriate wavelengths and transmits them to the multiplexing section of the ONS 15808 system. Transmitter transponder modules add out-of-band forward error correction (OOB-FEC) signal encoding to the client signal to improve signal quality and transport distance.

A block diagram is shown in the following figure.

■ **Transponder Cards**

Figure D-19   Cisco ONS 15808 Transmitter Transponder
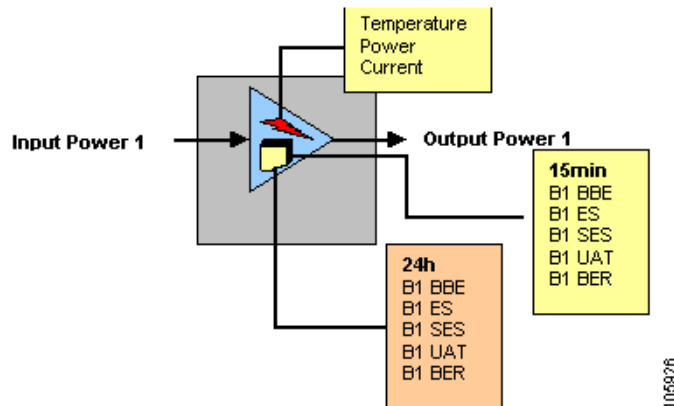
Transmitter transponders shown on this sheet include:

- Transmit Transponder–2.5 Gbps–C band–FEC Coding (TT-25G-Cxx)

- Transmit Transponder–10 Gbps–C band–FEC Coding (TT-10G-Cxx)

- Transmit Transponder–10 Gbps–C band–Single Slot–FEC Coding (TT-10G-SCxx)

- Transmit Transponder–10 Gbps–L band–Single Slot–FEC Coding (TT-10G-SLxx)

For ONS 15808 transmitter transponders, the Slot Properties pane displays the following tabs: Module View, Identification, Temperature, Quality Of Service, Current, Power, Input Power, Output Power, and Action.

D.5.14.1 Module View Tab

The Module View tab displays a graphic of the transponder that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Moving the mouse pointer over the graphic also displays the alarm counts.) The module status is displayed under Operational State. Right-clicking the graphic opens a shortcut menu that you can use to display the module in the Equipment Inventory Table, in the Alarm Browser, or in the Transmitter Transponders PM Table.

D.5.14.2 Identification Tab

The Identification tab allows you to view and update transponder identification information.

Table D-327   Field Descriptions for the Identification Tab

Field	Description
NE ID	Displays the user-defined name of the NE where the transponder is installed.
Description	Displays information that a user has entered (if any) to describe the NE.
NE Model	Identifies the model of the selected NE (ONS 15808) where the transponder is installed.
Rack ID	Displays the identification number of the rack where the subrack containing the transponder is installed.
Subrack ID	Displays the identification number of the subrack.

Table D-327   Field Descriptions for the Identification Tab (continued)

Field	Description
Slot ID	Displays the identification number of the slot containing the transponder.
Software Version	Displays the version of the software.
BIOS Version	Displays the version number of the BIOS.
Board Serial Number	Displays the serial number of the board.
SCC Number	Displays the version of the module serial communication controller (SCC).
Product Option	Displays the product option. Displays Not Available if TL1 Agent version is earlier than version 2.1.
Hardware Version	Displays the version of the hardware. Displays Not Available if TL1 Agent version is earlier than version 2.1.
Line Direction	Shows the line direction for the transponder.
State	Allows you to place the transponder in one of two states: In Service or Under Maintenance.
PM Collection Status	Allows you to enable or disable PM collection for the transponder.

D.5.14.3 Temperature Tab

The Temperature tab allows you to assign performance monitoring thresholds for the transponder operating temperature.

Table D-328   Field Descriptions for the Temperature Tab

Field	Description
Laser 1	
Value	When the Update button is clicked, displays the current temperature of Laser 1 (in degrees Celsius).
Low	Sets the operating temperature low threshold, in degrees Celsius, and the alarm severity level.
High	Sets the operating temperature high threshold, in degrees Celsius, and the alarm severity level.

D.5.14.4 Quality of Service Tab

The Quality of Service tab allows you to assign thresholds and alarm severities for B1 counters. Click the **15 min** radio button to assign thresholds for 15-minute collection increments. Click the **1 day** radio button to assign thresholds for 24-hour collection increments.

Table D-329   Field Descriptions for the Quality of Service Tab

Field	Description
B1 Counters	
Errored Seconds	Sets the high threshold for the number of B1 errored seconds (ES) and the alarm severity level. An errored second is a one-second period with one or more error blocks or at least one defect.
Severely Errored Seconds	Sets the high threshold for the number of B1 severely errored seconds (SES) and the alarm severity level. A severely errored second is a one-second period that contains at least 30% errored blocks or at least one defect.

Table D-329   Field Descriptions for the Quality of Service Tab (continued)

Field	Description
Background Block Errors	Sets the high threshold for the number of B1 background block errors (BBE) and the alarm severity level. An errored block is a block in which one or more bits are in error. A background block error is an errored block that does not occur as part of a severely errored second.
Bit Error Rate	Sets the high threshold for the B1 bit error rate and the alarm severity level. The BER is the ratio of received bits that contain errors.
Unavailable Seconds	Sets the high threshold for the number of B1 unavailable seconds (UAS) and the alarm severity level. The detection of 10 consecutive SES begins a period of UAS. The 10 SES detected are part of the UAS. The ES and SES counters decrement by 10 seconds and the UAS counter increments by an equivalent number of seconds. A new period of available time begins at the onset of 10 consecutive non-SES events.

D.5.14.5 Current Tab

The Current tab allows you to assign thresholds and alarm severities for the transponder laser current levels.

Table D-330   Field Descriptions for the Current Tab

Field	Description
Laser 1	
Value	When the Update button is clicked, displays the current value of the Laser 1 current (in mA).
Degrade	Sets the degrade threshold for the Laser 1 current, in mA, and the alarm severity level.
Fail	Sets the failure threshold for the Laser 1 current, in mA, and the alarm severity level.

D.5.14.6 Power Tab

The Power tab allows you to assign thresholds and alarm severities for the transponder laser power levels.

Table D-331   Field Descriptions for the Power Tab

Field	Description
Laser 1	
Value	When the Update button is clicked, displays the current power of Laser 1 (in mW).
Low	Sets the low threshold for the Laser 1 power, in mW, and the alarm severity level.
High	Sets the high threshold for the Laser 1 power, in mW, and the alarm severity level.

D.5.14.7 Input Power Tab

The Input Power tab allows you to assign thresholds and alarm severities for the power coming into the transponder lasers.

Table D-332   Field Descriptions for the Input Power Tab

Field	Description
Input Power 1	
Value	When the Update button is clicked, displays the current transponder input power (in dBm).
Low	Sets the low threshold for the input power, in dBm, and the alarm severity level.
High	Sets the high threshold for the input power, in dBm, and the alarm severity level.
Fail	Sets the failure threshold for the input power, in dBm, and the alarm severity level.

D.5.14.8 Output Power Tab

The Output Power tab allows you to assign thresholds and alarm severities for the transponder output power.

Table D-333   Field Descriptions for the Output Power Tab

Field	Description
Output Power 1	
Value	When the Update button is clicked, displays the current transponder output power (in dBm).
Low	Sets the low threshold for the output power, in dBm, and the alarm severity level.
High	Sets the high threshold for the output power, in dBm, and the alarm severity level.
Fail	Sets the failure threshold for the output power, in dBm, and the alarm severity level.

D.5.14.9 Action Tab

The Action tab allows you to force the ONS 15808 optical output power.

Table D-334   Field Descriptions for the Action Tab

Field	Description
Output Power Setting	
Force Optical Output Power	Allows you to activate the output power control mode on the transponder and force the transponder to regulate the optical output power. An improper setting of the transponder output power level could affect either of the following:
	• The equalization of the channel downstream from the optical line, the optical channel S/N in fiber, and at the end of the optical line.
	• The optical channel power at the end of the optical line.

Note   See Table 1-20 on page 1-44 for descriptions of actions that can be performed using the buttons at the bottom of the window.
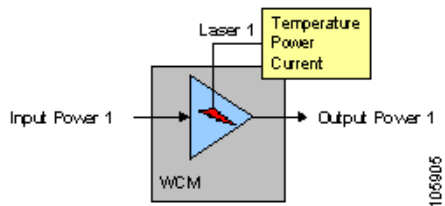
D.5.15 Slot Properties—WCM

The Slot Properties pane displays information about the Cisco ONS 15800 or ONS 15801 slot that is selected in the NE Explorer tree. Use this properties pane to set performance monitoring thresholds for the module.

Wavelength Converter Modules (WCMs) are used at terminal (transmit direction) and optical add/drop multiplexing (OADM) sites to retime, reshape, and regenerate SONET and SDH signals.

A block diagram is shown in the following figure.

Figure D-20   Cisco ONS 15800 or ONS 15801 Wavelength Converter Module

WCMs shown on this sheet include:

- Wavelength Converter Module–Externally Modulated–Normal (WCM-EM-Nxx)
- Wavelength Converter Module–622 Mbps–Normal (WCM-622-Nxx)

For WCM transponders, the Slot Properties pane displays the following tabs: Module View, Identification, Temperature, Current, Power, Input Power, and Output Power.

D.5.15.1 Module View Tab

The Module View tab displays a graphic of the transponder that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Moving the mouse pointer over the graphic also displays the alarm counts.) The module status is displayed under Operational State. Right-clicking the graphic opens a shortcut menu that you can use to display the module in the Alarm Browser or in the Equipment Inventory Table.

D.5.15.2 Identification Tab

The Identification tab allows you to view and update wavelength converter module identification information.

Table D-335   Field Descriptions for the Identification Tab

Field	Description
NE ID	Displays the user-defined name of the NE where the wavelength converter module is installed.
Description	Displays information that a user has entered (if any) to describe the NE.
NE Model	Identifies the model of the selected NE (ONS 15800 or ONS 15801) where the wavelength converter module is installed.
Rack ID	Displays the identification number of the rack where the subrack containing the wavelength converter module is installed.

Table D-335   Field Descriptions for the Identification Tab (continued)

Field	Description
Subrack ID	Displays the identification number of the subrack containing the wavelength converter module.
Slot ID	Displays the identification number of the slot containing the wavelength converter module.
Software Version	Displays the version of the software.
BIOS Version	Displays the version number of the BIOS.
Board Serial Number	Displays the serial number of the board.
SCC Number	Displays the version of the module serial communication controller (SCC).
Product Option	Displays the product option. Displays "Not Available" if the TL1 Agent version is earlier than version 2.1.
Hardware Version	Displays the version of the hardware. Displays "Not Available" if the TL1 Agent version is earlier than version 2.1.
Line Direction	Shows the line direction for the wavelength converter module.
State	Allows you to place the wavelength converter module in one of two states: In Service or Under Maintenance.
PM Collection Status	Allows you to enable or disable PM data collection for the wavelength converter module.

D.5.15.3 Temperature Tab

The Temperature tab allows you to assign performance monitoring thresholds for the wavelength converter module laser temperature.

Table D-336   Field Descriptions for the Temperature Tab

Field	Description
Laser 1 Temperature	
Value	When the **Update** button is clicked, displays the current temperature of Laser 1.
Low	Sets the low temperature threshold for Laser 1 (in degrees Celsius) and the alarm severity level.
High	Sets the high temperature threshold for Laser 1 (in degrees Celsius) and the alarm severity level.

D.5.15.4 Current Tab

The Current tab allows you to assign performance monitoring thresholds for the wavelength converter module laser current levels.

Table D-337   Field Descriptions for the Current Tab

Field	Description
Laser 1 Current	
Value	When the **Update** button is clicked, displays the Laser 1 current of the module.
Degrade	Sets the degrade threshold for Laser 1 current (in mA) and the alarm severity level.
Fail	Sets the failure threshold for Laser 1 current (in mA) and the alarm severity level.

D.5.15.5 Power Tab

The Power tab allows you to assign performance monitoring thresholds for the wavelength converter module Laser 1 power levels.

Table D-338   Field Descriptions for the Power Tab

Field	Description
Laser 1 Power	
Value	When the **Update** button is clicked, displays the current power of Laser 1.
Low	Sets the low threshold for the laser power (in mW) and the alarm severity level.
High	Sets the high threshold for the laser power (in mW) and the alarm severity level.

D.5.15.6 Input Power Tab

The Input Power tab allows you to assign performance monitoring thresholds for the power coming into the wavelength converter module.

Table D-339   Field Descriptions for the Input Power Tab

Field	Description
Input Power 1	
Value	When the **Update** button is clicked, displays the current wavelength converter input power.
Low	Sets the low threshold for the module input power in dBm and the alarm severity level.
High	Sets the high threshold for the module input power (in dBm) and the alarm severity level.

D.5.15.7 Output Power Tab

The Output Power tab allows you to assign performance monitoring thresholds for the wavelength converter module output power.

Table D-340   Field Descriptions for the Output Power Tab

| Field	Description
Output Power 1	
Value	When the **Update** button is clicked, displays the current wavelength converter module output power.
Low	Sets the low threshold for the wavelength converter module Laser 1 output power (in dBm) and the alarm severity level.
High	Sets the high threshold for the wavelength converter module Laser 1 output power (in dBm) and the alarm severity level.

![note icon]

Note   See Table 1-20 on page 1-44 for descriptions of actions that can be performed using the buttons at the bottom of the window.

D.5.16 Slot Properties—WCM-10G-Nxx

The Slot Properties pane displays information about the module that is installed in the slot selected in the NE Explorer tree. Use this properties pane to set performance monitoring thresholds for the module. Wavelength converter modules (WCMs) are used at terminal (transmit direction) and optical add/drop multiplexing (OADM) sites to retime, reshape, and regenerate SONET and SDH signals.

A block diagram is shown in the following figure.

Figure D-21   Cisco ONS 15800 or ONS 15801 Wavelength Converter Module–10 Gbps–Normal
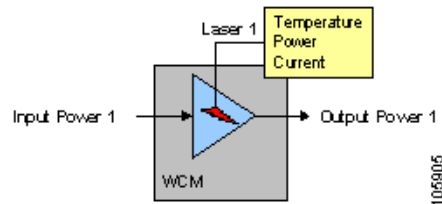
For the Wavelength Converter Module–10 Gbps–Normal (WCM-10G-Nxx), the Slot Properties pane displays the following tabs: Module View, Identification, Temperature, Current, Power, Input Power, and Output Power.

D.5.16.1 Module View Tab

The Module View tab displays a graphic of the transponder that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Moving the mouse pointer over the graphic also displays the alarm counts.) The module status is displayed under Operational State. Right-clicking the graphic opens a shortcut menu that you can use to display the module in the Alarm Browser, in the Equipment Inventory Table, or in the LEM PM Table.

D.5.16.2 Identification Tab

The Identification tab allows you to view and update module identification information.

Table D-341   Field Descriptions for the Identification Tab

Field	Description
NE ID	Displays the user-defined name of the NE where the wavelength converter module is installed.
Description	Displays information that a user has entered (if any) to describe the NE.
NE Model	Identifies the model of the selected NE (ONS 15800 or ONS 15801) where the wavelength converter module is installed.
Rack ID	Displays the identification number of the rack where the subrack containing the wavelength converter module is installed.
Subrack ID	Displays the identification number of the subrack containing the wavelength converter module.
Slot ID	Displays the identification number of the slot containing the wavelength converter module.
Software Version	Displays the version of the software.
BIOS Version	Displays the version number of the BIOS.
Board Serial Number	Displays the serial number of the board.

Table D-341   Field Descriptions for the Identification Tab (continued)

Field	Description
SCC Number	Displays the version of the module serial communication controller (SCC).
Product Option	Displays the product option. Displays "Not Available" if the TL1 Agent version is earlier than version 2.1.
Hardware Version	Displays the version of the hardware. Displays "Not Available" if the TL1 Agent version is earlier than version 2.1.
Line Direction	Shows the line direction for the wavelength converter module.
State	Allows you to place the wavelength converter module in one of two states: In Service or Under Maintenance.
PM Collection Status	Allows you to enable or disable PM data collection for the wavelength converter module.

D.5.16.3 Temperature Tab

The Temperature tab allows you to assign performance monitoring thresholds for the wavelength converter module laser temperature.

Table D-342   Field Descriptions for the Temperature Tab

Field	Description
Laser 1 Temperature	
Value	When the **Update** button is clicked, displays the current temperature of Laser 1.
Low	Sets the low temperature threshold for Laser 1 (in degrees Celsius) and the alarm severity level.
High	Sets the high temperature threshold for Laser 1 (in degrees Celsius) and the alarm severity level.

D.5.16.4 Current Tab

The Current tab allows you to assign performance monitoring thresholds for the wavelength converter module laser current levels.

Table D-343   Field Descriptions for the Current Tab

Field	Description
Laser 1 Current	
Value	When the **Update** button is clicked, displays the current of the module.
Degrade	Sets the degrade threshold for Laser 1 current (in mA) and the alarm severity level.
Fail	Sets the failure threshold for Laser 1 current (in mA) and the alarm severity level.

D.5.16.5 Power Tab

The Power tab allows you to assign performance monitoring thresholds for the wavelength converter module Laser 1 power levels.

Table D-344   Field Descriptions for the Power Tab

Field	Description
Laser 1 Power	
Value	When the **Update** button is clicked, displays the current power of Laser 1.
Low	Sets the low threshold for the laser power (in mW) and the alarm severity level.
High	Sets the high threshold for the laser power (in mW) and the alarm severity level.

D.5.16.6 Input Power Tab

The Input Power tab allows you to assign performance monitoring thresholds for the power coming into the wavelength converter module.

Table D-345   Field Descriptions for the Input Power Tab

Field	Description
Input Power 1	
Value	When the **Update** button is clicked, displays the current wavelength converter module input power.
Fail	Sets the failure threshold for the module input power in dBm and the alarm severity level.
Degrade	Sets the degrade threshold for the module input power (in dBm) and the alarm severity level.

D.5.16.7 Output Power Tab

The Output Power tab allows you to assign performance monitoring thresholds for the wavelength converter module output power.

Table D-346   Field Descriptions for the Output Power Tab

Field	Description
Output Power 1	
Value	When the **Update** button is clicked, displays the current wavelength converter module Laser 1 output power.
Low	Sets the low threshold for the module Laser 1 output power (in dBm) and the alarm severity level.
High	Sets the high threshold for the module Laser 1 output power (in) and the alarm severity level.

Note   See Table 1-20 on page 1-44 for descriptions of actions that can be performed using the buttons at the bottom of the window.

D.5.17 Slot Properties—WCM-FEC

The Slot Properties pane displays information about the Cisco ONS 15800 or ONS 15801 slot that is selected in the NE Explorer tree. Use this properties pane to set performance monitoring thresholds for the module.

Forward error correction (FEC) wavelength converter modules (WCMs) are used at terminal (transmit direction) and optical add/drop multiplexing (OADM) sites to retime, reshape, and regenerate SONET and SDH signals.

A block diagram is shown in the following figure.

Figure D-22   Cisco ONS 15800 or ONS 15801 Wavelength Converter Module–Forward Error Correction
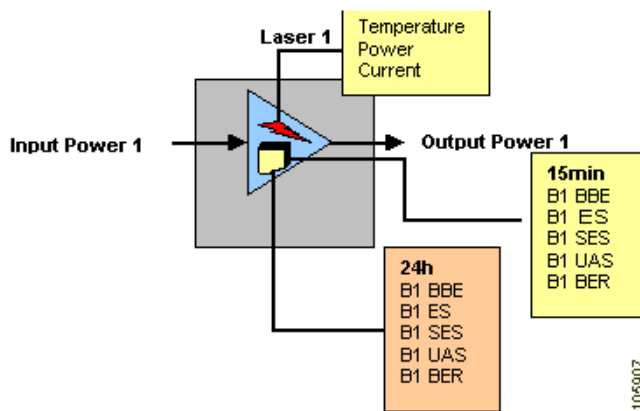
WCMs shown on this sheet include:

- Wavelength Converter Module–Externally Modulated–Forward Error Correction (WCM-EM-Fxx)
- Wavelength Converter Module–10 Gbps–Forward Error Correction (WCM-10G-Fxx)

For FEC WCMs, the Slot Properties pane displays the following tabs: Module View, Identification, Temperature, Quality of Service, Current, Power, Input Power, Output Power, and Action.

D.5.17.1 Module View Tab

The Module View tab displays a graphic of the transponder that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Moving the mouse pointer over the graphic also displays the alarm counts.) The module status is displayed under Operational State. Right-clicking the graphic opens a shortcut menu that you can use to display the module in the Alarm Browser, in the Equipment Inventory Table, or in the FEC WCM PM Table.

D.5.17.2 Identification Tab

The Identification tab allows you to view and update wavelength converter module identification information.

Table D-347   Field Descriptions for the Identification Tab

Field	Description
NE ID	Displays the user-defined name of the NE where the wavelength converter module is installed.
Description	Displays information that a user has entered (if any) to describe the NE.
NE Model	Identifies the model of the selected NE (ONS 15800 or ONS 15801) where the wavelength converter module is installed.
Rack ID	Displays the identification number of the rack where the subrack containing the wavelength converter module is installed.
Subrack ID	Displays the identification number of the subrack containing the wavelength converter module.
Slot ID	Displays the identification number of the slot containing the wavelength converter module.
Software Version	Displays the version of the software.
BIOS Version	Displays the version number of the BIOS.
Board Serial Number	Displays the serial number of the board.
SCC Number	Displays the version of the module serial communication controller (SCC).
Product Option	Displays the product option. Displays "Not Available" if the TL1 Agent version is earlier than version 2.1.
Hardware Version	Displays the version of the hardware. Displays "Not Available" if the TL1 Agent version is earlier than version 2.1.
Line Direction	Shows the line direction for the wavelength converter module.
State	Allows you to place the wavelength converter module in one of two states: In Service or Under Maintenance.
PM Collection Status	Allows you to enable or disable PM data collection for the wavelength converter module.

D.5.17.3 Temperature Tab

The Temperature tab allows you to assign performance monitoring thresholds for the wavelength converter module laser temperature.

Table D-348   Field Descriptions for the Temperature Tab

Field	Description
Laser 1 Temperature	
Value	When the **Update** button is clicked, displays the current temperature of Laser 1.
Low	Sets the low temperature threshold for Laser 1 (in degrees Celsius) and the alarm severity level.
High	Sets the high temperature threshold for Laser 1 (in degrees Celsius) and the alarm severity level.

D.5.17.4 Quality of Service Tab

The Quality of Service tab allows you to assign thresholds and alarm severities for B1 and FEC counters. Click the **15 min** radio button to assign thresholds for 15-minute collection increments. Click the **1 day** radio button to assign thresholds for 24-hour collection increments.

Table D-349   Field Descriptions for the Quality of Service Tab

Field	Description
B1 Counters	
Errored Seconds	Sets the high threshold for the number of B1 errored seconds (ES) and the alarm severity level. An errored second is a one-second period with one or more error blocks or at least one defect.
Severely Errored Seconds	Sets the high threshold for the number of B1 severely errored seconds (SES) and the alarm severity level. A severely errored second is a one-second period that contains at least 30 percent of errored blocks or at least one defect.
Background Block Errors	Sets the high threshold for the number of B1 background block errors (BBE) and the alarm severity level. An errored block is a block in which one or more bits are in error. A background block error is an errored block that does not occur as part of a severely errored second.
Bit Error Rate	Sets the high threshold for the B1 bit error rate (BER) and the alarm severity level. The BER is the ratio of received bits that contain errors.
FEC Counters	
Errored Seconds	Sets the high threshold for the number of FEC ES and the alarm severity level.
Severely Errored Seconds	Sets the high threshold for the number of FEC SES and the alarm severity level.
Background Block Errors	Sets the high threshold for the number of FEC BBE and the alarm severity level.
Unavailable Seconds	Sets the high threshold for the number of FEC unavailable seconds (UAS) and the alarm severity level. The detection of 10 consecutive SES begins a period of UAS. The 10 SES detected are part of the UAS. The ES and SES counters decrement by 10 seconds and the UAS counter increments by an equivalent number of seconds. A new period of available time begins at the onset of 10 consecutive non-SES events.
Error Corrected Rate	Sets the high threshold for the bit error corrected rate (ECR) and the alarm severity level. The ECR is the ratio of FEC bit errors corrected to bits transmitted.
Uncorrected Codewords Rate	Sets the high threshold for the uncorrected codeword rate (UCR) and the alarm severity level. The UCR is the ratio of uncorrected codewords to codewords transmitted. A codeword is a block of N symbols that carry K information symbols and R redundant symbols (N = K+R).
Unavailable Seconds	Sets the high threshold for the number of B1 unavailable seconds (UAS) and the alarm severity level. The detection of 10 consecutive SES begins a period of UAS. The 10 SES detected are part of the UAS. The ES and SES counters decrement by 10 seconds and the UAS counter increments by an equivalent number of seconds. A new period of available time begins at the onset of 10 consecutive non-SES events.

D.5.17.5 Current Tab

The Current tab allows you to assign performance monitoring thresholds for the wavelength converter module laser current levels.

Table D-350   Field Descriptions for the Current Tab

Field	Description
Laser 1 Current	
Value	When the **Update** button is clicked, displays the Laser 1 current of the module.
Degrade	Sets the degrade threshold for Laser 1 current (in mA) and the alarm severity level.
Fail	Sets the failure threshold for Laser 1 current (in mA) and the alarm severity level.

D.5.17.6 Power Tab

The Power tab allows you to assign performance monitoring thresholds for the wavelength converter module Laser 1 power levels.

Table D-351   Field Descriptions for the Power Tab

Field	Description
Laser 1 Power	
Value	When the **Update** button is clicked, displays the current power of Laser 1.
Low	Sets the low threshold for the laser power (in mW) and the alarm severity level.
High	Sets the high threshold for the laser power (in mW) and the alarm severity level.

D.5.17.7 Input Power Tab

The Input Power tab allows you to assign performance monitoring thresholds for the power coming into the wavelength converter module.

Table D-352   Field Descriptions for the Input Power Tab

Field	Description
Input Power 1	
Value	When the **Update** button is clicked, displays the current wavelength converter module input power.
Low	Sets the low threshold for the module input power in dBm and the alarm severity level.
High	Sets the high threshold for the module input power (in dBm) and the alarm severity level.
Fail	Sets the failure threshold for the module input power (in dBm) and the alarm severity level.

D.5.17.8 Output Power Tab

The Output Power tab allows you to assign performance monitoring thresholds for the wavelength converter module output power.

Table D-353   Field Descriptions for the Output Power Tab

Field	Description
Output Power 1	
Value	When the **Update** button is clicked, displays the current wavelength converter module Laser 1 output power.

■ **Transponder Cards**

Table D-353   Field Descriptions for the Output Power Tab (continued)

Field	Description
Low	Sets the low threshold for the wavelength converter module Laser 1 output power (in dB) and the alarm severity level.
High	Sets the high threshold for the wavelength converter module Laser 1 output power (in dB) and the alarm severity level.
Fail	Sets the failure threshold for the wavelength converter module Laser 1 output power (in dB) and the alarm severity level.

D.5.17.9 Action Tab

The Action tab allows you to specify the output power setting.

Table D-354   Field Descriptions for the Action Tab

Field	Description
Output Power Setting	The output power setting is used to activate the output power control mode on FEC transponders and force the transponder to regulate the optical output power. An improper setting of the transponder output power level could affect either of the following: • the equalization of the channel downstream from the optical line, the optical channel S/N in fiber, and at the end of the optical line. • the optical channel power at the end of the optical line. Click **Execute** to apply your changes to the setting. Click **Update** to retrieve the current setting from the NE.

Note   See Table 1-20 on page 1-44 for descriptions of actions that can be performed using the buttons at the bottom of the window.
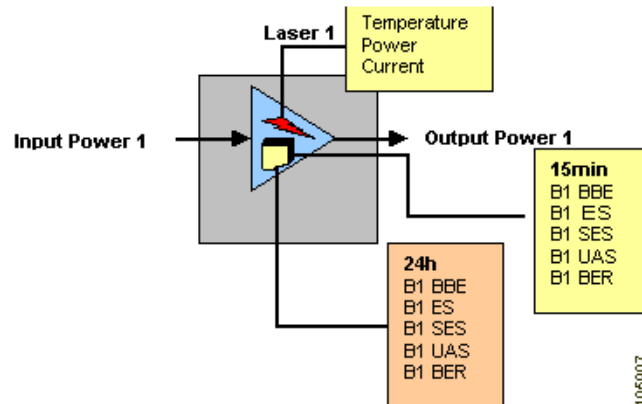
D.5.18 Slot Properties—WCM-EM-Fxx

The Slot Properties pane displays information about the Cisco ONS 15800 or ONS 15801 slot that is selected in the NE Explorer tree. Use this properties pane to set performance monitoring thresholds for the module.

Forward error correction (FEC) wavelength converter modules (WCMs) are used at terminal (transmit direction) and optical add/drop multiplexing (OADM) sites to retime, reshape, and regenerate SONET and SDH signals.

A block diagram is shown in the following figure.

Figure D-23   Cisco ONS 15800 or ONS 15801 Wavelength Converter Module–Externally Modulated–Forward Error Correction

For Wavelength Converter Modules–Externally Modulated–Forward Error Correction (WCM-EM-Fxx), the Slot Properties pane displays the following tabs: Module View, Identification, Temperature, Quality of Service, Current, Power, Input Power, Output Power, and Action.

D.5.18.1 Module View Tab

The Module View tab displays a graphic of the transponder that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Moving the mouse pointer over the graphic also displays the alarm counts.) The module status is displayed under Operational State. Right-clicking the graphic opens a shortcut menu that you can use to display the module in the Alarm Browser, in the Equipment Inventory Table, or in the FEC WCM PM Table.

D.5.18.2 Identification Tab

The Identification tab allows you to view and update wavelength converter module identification information.

Table D-355   Field Descriptions for the Identification Tab

Field	Description
NE ID	Displays the user-defined name of the NE where the wavelength converter module is installed.
Description	Displays information that a user has entered (if any) to describe the NE.
NE Model	Identifies the model of the selected NE (ONS 15800 or ONS 15801) where the wavelength converter module is installed.
Rack ID	Displays the identification number of the rack where the subrack containing the wavelength converter module is installed.
Subrack ID	Displays the identification number of the subrack containing the wavelength converter module.
Slot ID	Displays the identification number of the slot containing the wavelength converter module.
Software Version	Displays the version of the software.
BIOS Version	Displays the version number of the BIOS.
Board Serial Number	Displays the serial number of the board.

Table D-355   Field Descriptions for the Identification Tab (continued)

Field	Description
SCC Number	Displays the version of the module serial communication controller (SCC).
Product Option	Displays the product option. Displays "Not Available" if the TL1 Agent version is earlier than version 2.1.
Hardware Version	Displays the version of the hardware. Displays "Not Available" if the TL1 Agent version is earlier than version 2.1.
Line Direction	Shows the line direction for the wavelength converter module.
State	Allows you to place the wavelength converter module in one of two states: In Service or Under Maintenance.
PM Collection Status	Allows you to enable or disable PM data collection for the wavelength converter module.

D.5.18.3 Temperature Tab

The Temperature tab allows you to assign performance monitoring thresholds for the wavelength converter module laser temperature.

Table D-356   Field Descriptions for the Temperature Tab

Field	Description
Laser 1 Temperature	
Value	When the **Update** button is clicked, displays the current temperature of Laser 1.
Low	Sets the low temperature threshold for Laser 1 (in degrees Celsius) and the alarm severity level.
High	Sets the high temperature threshold for Laser 1 (in degrees Celsius) and the alarm severity level.

D.5.18.4 Quality of Service Tab

The Quality of Service tab allows you to assign thresholds and alarm severities for B1 and FEC counters. Click the **15 min** radio button to assign thresholds for 15-minute collection increments. Click the **1 day** radio button to assign thresholds for 24-hour collection increments.

Table D-357   Field Descriptions for the Quality of Service Tab

Field	Description
B1 Counters	
Errored Seconds	Sets the high threshold for the number of B1 errored seconds (ES) and the alarm severity level. An errored second is a one-second period with one or more error blocks or at least one defect.
Severely Errored Seconds	Sets the high threshold for the number of B1 severely errored seconds (SES) and the alarm severity level. A severely errored second is a one-second period that contains at least 30 percent of errored blocks or at least one defect.
Background Block Errors	Sets the high threshold for the number of B1 background block errors (BBE) and the alarm severity level. An errored block is a block in which one or more bits are in error. A background block error is an errored block that does not occur as part of a severely errored second.

Table D-357   Field Descriptions for the Quality of Service Tab (continued)

Field	Description
Bit Error Rate	Sets the high threshold for the B1 bit error rate (BER) and the alarm severity level. The BER is the ratio of received bits that contain errors.
FEC Counters	
Errored Seconds	Sets the high threshold for the number of FEC ES and the alarm severity level.
Severely Errored Seconds	Sets the high threshold for the number of FEC SES and the alarm severity level.
Background Block Errors	Sets the high threshold for the number of FEC BBE and the alarm severity level.
Unavailable Seconds	Sets the high threshold for the number of FEC unavailable seconds (UAS) and the alarm severity level. The detection of 10 consecutive SES begins a period of UAS. The 10 SES detected are part of the UAS. The ES and SES counters decrement by 10 seconds and the UAS counter increments by an equivalent number of seconds. A new period of available time begins at the onset of 10 consecutive non-SES events.
Error Corrected Rate	Sets the high threshold for the bit error corrected rate (ECR) and the alarm severity level. The ECR is the ratio of FEC bit errors corrected to bits transmitted.
Uncorrected Codewords Rate	Sets the high threshold for the uncorrected codeword rate (UCR) and the alarm severity level. The UCR is the ratio of uncorrected codewords to codewords transmitted. A codeword is a block of N symbols that carry K information symbols and R redundant symbols ($N = K+R$).
Unavailable Seconds	Sets the high threshold for the number of B1 UAS and the alarm severity level. The detection of 10 consecutive SES begins a period of UAS. The 10 SES detected are part of the UAS. The ES and SES counters decrement by 10 seconds and the UAS counter increments by an equivalent number of seconds. A new period of available time begins at the onset of 10 consecutive non-SES events.

D.5.18.5 Current Tab

The Current tab allows you to assign performance monitoring thresholds for the wavelength converter module laser current levels.

Table D-358   Field Descriptions for the Current Tab

Field	Description
Laser 1 Current	
Value	When the **Update** button is clicked, displays the Laser 1 current of the module.
Degrade	Sets the degrade threshold for Laser 1 current (in mA) and the alarm severity level.
Fail	Sets the failure threshold for Laser 1 current (in mA) and the alarm severity level.

D.5.18.6 Power Tab

The Power tab allows you to assign performance monitoring thresholds for the wavelength converter module Laser 1 power levels.

Table D-359   Field Descriptions for the Power Tab

Field	Description
Laser 1 Power	
Value	When the **Update** button is clicked, displays the current power of Laser 1.
Low	Sets the low threshold for the laser power (in mW) and the alarm severity level.
High	Sets the high threshold for the laser power (in mW) and the alarm severity level.

D.5.18.7 Input Power Tab

The Input Power tab allows you to assign performance monitoring thresholds for the power coming into the wavelength converter module.

Table D-360   Field Descriptions for the Input Power Tab

Field	Description
Input Power 1	
Value	When the **Update** button is clicked, displays the current wavelength converter module input power.
Low	Sets the low threshold for the module input power in dBm and the alarm severity level.
High	Sets the high threshold for the module input power (in dBm) and the alarm severity level.
Fail	Sets the failure threshold for the module input power (in dBm) and the alarm severity level.

D.5.18.8 Output Power Tab

The Output Power tab allows you to assign performance monitoring thresholds for the wavelength converter module output power.

Table D-361   Field Descriptions for the Output Power Tab

Field	Description
Output Power 1	
Value	When the **Update** button is clicked, displays the current wavelength converter module Laser 1 output power.
Low	Sets the low threshold for the module Laser 1 output power (in dB) and the alarm severity level.
High	Sets the high threshold for the module Laser 1 output power (in dB) and the alarm severity level.
Fail	Sets the failure threshold for the module Laser 1 output power (in dB) and the alarm severity level.

D.5.18.9 Action Tab

The Action tab allows you to specify the output power setting.

Table D-362   Field Descriptions for the Action Tab

Field	Description
Output Power Setting	The output power setting is used to activate the output power control mode on FEC transponders and force the transponder to regulate the optical output power. An improper setting of the transponder output power level could affect either of the following: • The equalization of the channel downstream from the optical line, the optical channel S/N in fiber, and at the end of the optical line. • The optical channel power at the end of the optical line. Click **Update** to retrieve the current setting from the NE.

Note   See Table 1-20 on page 1-44 for descriptions of actions that can be performed using the buttons at the bottom of the window.

D.5.19 Slot Properties—WCM-EM-Mxx

The Slot Properties pane displays information about the 2.5-Gbps Wavelength Converter Module–Externally Modulated–B1 Monitoring (WCM-EM-Mxx) that is installed in the slot selected in the NE Explorer tree. Use this properties pane to set performance monitoring thresholds for the module.

Wavelength converter modules (WCMs) are used at terminal (transmit direction) and optical add/drop multiplexing (OADM) sites to retime, reshape, and regenerate SONET and SDH signals.

A block diagram is shown in the following figure.

Figure D-24   Cisco ONS 15800 or ONS 15801 Wavelength Converter Module–2.5 Gbps–B1 Monitoring
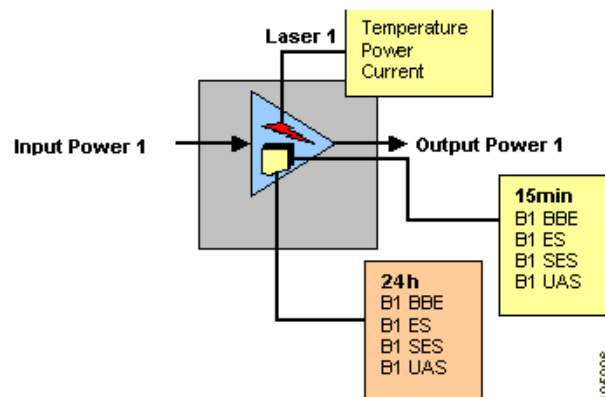
For 2.5-Gbps, B1-monitoring WCM modules, the Slot Properties pane displays the following tabs: Module View, Identification, Temperature, Quality of Service, Current, Power, Input Power, and Output Power.

■ **Transponder Cards**

D.5.19.1 Module View Tab

The Module View tab displays a graphic of the module that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Moving the mouse pointer over the graphic also displays the alarm counts.) The module status is displayed under Operational State. Right-clicking the graphic opens a shortcut menu that you can use to display the module in the Alarm Browser, in the Equipment Inventory Table, or in the B1 LEM PM Table.

D.5.19.2 Identification Tab

The Identification tab allows you to view and update wavelength converter module identification information.

Table D-363   Field Descriptions for the Identification Tab

Field	Description
NE ID	Displays the user-defined name of the NE where the module is installed.
Description	Displays information that a user has entered (if any) to describe the NE.
NE Model	Identifies the model of the selected NE (ONS 15800 or ONS 15801) where the module is installed.
Rack ID	Displays the identification number of the rack where the subrack containing the module is installed.
Subrack ID	Displays the identification number of the subrack containing the module.
Slot ID	Displays the identification number of the slot containing the module.
Software Version	Displays the version of the software.
BIOS Version	Displays the version number of the BIOS.
Board Serial Number	Displays the serial number of the board.
SCC Number	Displays the version of the module serial communication controller (SCC).
Product Option	Displays the product option. Displays "Not Available" if the TL1 Agent version is earlier than version 2.1.
Hardware Version	Displays the version of the hardware. Displays "Not Available" if the TL1 Agent version is earlier than version 2.1.
Line Direction	Shows the line direction for the module.
State	Allows you to place the module in one of two states: In Service or Under Maintenance.
PM Collection State	Allows you to enable or disable PM data collection for the module.

D.5.19.3 Temperature Tab

The Temperature tab allows you to assign performance monitoring thresholds for the module laser temperature.

Table D-364   Field Descriptions for the Temperature Tab

Field	Description
Laser 1 Temperature	
Value	When the **Update** button is clicked, displays the current temperature of Laser 1.
Low	Sets the low temperature threshold for Laser 1 (in degrees Celsius) and the alarm severity level.
High	Sets the high temperature threshold for Laser 1 (in degrees Celsius) and the alarm severity level.

D.5.19.4 Quality of Service Tab

The Quality of Service tab allows you to assign high alarm thresholds and severities for B1 counters. Click the **15 min** radio button to assign thresholds for 15-minute collection increments. Click the **1 day** radio button to assign thresholds for 24-hour collection increments.

Table D-365   Field Descriptions for the Quality of Service Tab

Field	Description
B1 Counters	
Errored Seconds	Sets the high threshold for the number of B1 errored seconds (ES) and the alarm severity level. An errored second is a one-second period with one or more error blocks or at least one defect.
Severely Errored Seconds	Sets the high threshold for the number of B1 severely errored seconds (SES) and the alarm severity level. A severely errored second is a one-second period that contains at least 30 percent of errored blocks or at least one defect.
Background Block Errors	Sets the high threshold for the number of B1 background block errors (BBE) and the alarm severity level. An errored block is a block in which one or more bits are in error. A background block error is an errored block that does not occur as part of a severely errored second.
Unavailable Seconds	Sets the high threshold for the number of B1 unavailable seconds (UAS) and the alarm severity level. The detection of 10 consecutive SES begins a period of UAS. The 10 SES detected are part of the UAS. The ES and SES counters decrement by 10 seconds and the UAS counter increments by an equivalent number of seconds. A new period of available time begins at the onset of 10 consecutive non-SES events.

D.5.19.5 Current Tab

The Current tab allows you to assign alarm thresholds and severities for the wavelength converter module laser current levels.

Table D-366   Field Descriptions for the Current Tab

Field	Description
Laser 1	
Value	When the **Update** button is clicked, displays the current value of the Laser 1 current (in mA).
Degrade	Sets the degrade threshold for the Laser 1 current (in mA) and the alarm severity level.
Fail	Sets the failure threshold for the Laser 1 current (in mA) and the alarm severity level.

D.5.19.6 Power Tab

The Power tab allows you to assign performance monitoring thresholds for the wavelength converter module Laser 1 power levels.

Table D-367   Field Descriptions for the Power Tab

Field	Description
Laser 1 Power	
Value	When the **Update** button is clicked, displays the current power of Laser 1.
Low	Sets the low threshold for the laser power (in mW) and the alarm severity level.
High	Sets the high threshold for the laser power (in mW) and the alarm severity level.

D.5.19.7 Input Power Tab

The Input Power tab allows you to assign performance monitoring thresholds for the power coming into the module.

Table D-368   Field Descriptions for the Input Power Tab

Field	Description
Input Power 1	
Value	When the **Update** button is clicked, displays the current wavelength converter module input power.
Low	Sets the low threshold for the module input power in dBm and the alarm severity level.
High	Sets the high threshold for the module input power (in dBm) and the alarm severity level.

D.5.19.8 Output Power Tab

The Output Power tab allows you to assign performance monitoring thresholds for the module output power.

Table D-369   Field Descriptions for the Output Power Tab

Field	Description
Output Power 1	
Value	When the **Update** button is clicked, displays the current wavelength converter module output power.
Low	Sets the low threshold for the module Laser 1 output power (in dBm) and the alarm severity level.
High	Sets the high threshold for the module Laser 1 output power (in dBm) and the alarm severity level.

✎ **Note** See for descriptions of actions that can be performed using the buttons at the bottom of the window.
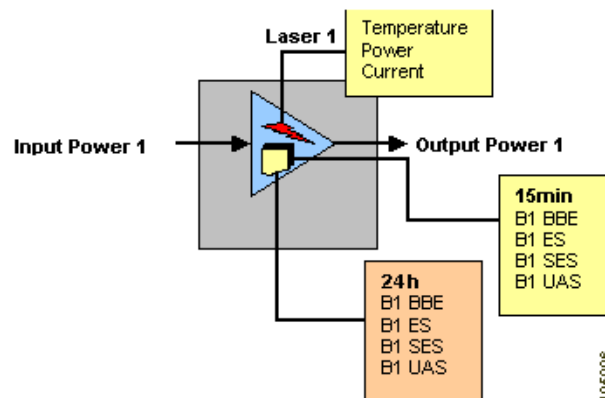
D.5.20 Slot Properties—WCM10

The Slot Properties pane displays information about the Cisco ONS 15800 or ONS 15801 slot that is selected in the NE Explorer tree. Use this properties pane to set performance monitoring thresholds for the module.

Wavelength converter modules (WCMs) are used at terminal (transmit direction) and optical add/drop multiplexing (OADM) sites to retime, reshape, and regenerate SONET and SDH signals.

A block diagram is shown in the following figure.

Figure D-25   Cisco ONS 15800 or ONS 15801 Wavelength Converter Module–10 Gbps–B1 Monitoring

WCMs shown on this sheet include:

- Wavelength Converter Module–10 Gbps–B1 Monitoring (WCM-10G-Mxx)
- Wavelength Converter Module–10 Gbps High Output Power–B1 Monitoring (WCM-10H-Mxx)

For these transponders, the Slot Properties pane displays the following tabs: Module View, Identification, Temperature, Quality of Service, Current, Power, Input Power, and Output Power.

D.5.20.1 Module View Tab

The Module View tab displays a graphic of the transponder that is installed in the slot. The number of critical, major, minor, and warning alarms for the module is displayed under Alarm Status. (Moving the mouse pointer over the graphic also displays the alarm counts.) The module status is displayed under Operational State. Right-clicking the graphic opens a shortcut menu that you can use to display the module in the Alarm Browser, in the Equipment Inventory Table, or in the B1 LEM PM Table.

D.5.20.2 Identification Tab

The Identification tab allows you to view and update wavelength converter module identification information.

Table D-370   Field Descriptions for the Identification Tab

Field	Description
NE ID	Displays the user-defined name of the NE where the module is installed.
Description	Displays information that a user has entered (if any) to describe the NE.
NE Model	Identifies the model of the selected NE (ONS 15800 or ONS 15801) where the module is installed.
Rack ID	Displays the identification number of the rack where the subrack containing the module is installed.
Subrack ID	Displays the identification number of the subrack containing the module.
Slot ID	Displays the identification number of the slot containing the module.
Software Version	Displays the version of the software.
BIOS Version	Displays the version number of the BIOS.
Board Serial Number	Displays the serial number of the board.
SCC Number	Displays the version of the module serial communication controller (SCC).
Product Option	Displays the product option. Displays "Not Available" if the TL1 Agent version is earlier than version 2.1.
Hardware Version	Displays the version of the hardware. Displays "Not Available" if the TL1 Agent version is earlier than version 2.1.
Line Direction	Shows the line direction for the module.
State	Allows you to place the module in one of two states: In Service or Under Maintenance.
PM Collection Status	Allows you to enable or disable PM data collection for the module.

D.5.20.3 Temperature Tab

The Temperature tab allows you to assign performance monitoring thresholds for the wavelength converter module laser temperature.

Table D-371   Field Descriptions for the Temperature Tab

Field	Description
Laser 1 Temperature	
Value	When the **Update** button is clicked, displays the current temperature of Laser 1.
Low	Sets the low temperature threshold for Laser 1 (in degrees Celsius) and the alarm severity level.
High	Sets the high temperature threshold for Laser 1 (in degrees Celsius) and the alarm severity level.

D.5.20.4 Quality of Service Tab

The Quality of Service tab allows you to assign high alarm thresholds and severities for B1 counters. Click the **15 min** radio button to assign thresholds for 15-minute collection increments. Click the **1 day** radio button to assign thresholds for 24-hour collection increments.

Table D-372   Field Descriptions for the Quality of Service Tab

Field	Description
B1 Counters	
Errored Seconds	Sets the high threshold for the number of B1 errored seconds (ES) and the alarm severity level. An errored second is a one-second period with one or more error blocks or at least one defect.
Severely Errored Seconds	Sets the high threshold for the number of B1 severely errored seconds (SES) and the alarm severity level. A severely errored second is a one-second period that contains at least 30 percent of errored blocks or at least one defect.
Background Block Errors	Sets the high threshold for the number of B1 background block errors (BBE) and the alarm severity level. An errored block is a block in which one or more bits are in error. A background block error is an errored block that does not occur as part of a severely errored second.
Unavailable Seconds	Sets the high threshold for the number of B1 unavailable seconds (UAS) and the alarm severity level. The detection of 10 consecutive SES begins a period of UAS. The 10 SES detected are part of the UAS. The ES and SES counters decrement by 10 seconds and the UAS counter increments by an equivalent number of seconds. A new period of available time begins at the onset of 10 consecutive non-SES events.

D.5.20.5 Current Tab

The Current tab allows you to assign performance monitoring thresholds for the wavelength converter module laser current levels.

Table D-373   Field Descriptions for the Current Tab

Field	Description
Laser 1 Current	
Value	When the **Update** button is clicked, displays the Laser 1 current of the module.
Degrade	Sets the degrade threshold for Laser 1 current (in mA) and the alarm severity level.
Fail	Sets the failure threshold for Laser 1 current (in mA) and the alarm severity level.

D.5.20.6 Power Tab

The Power tab allows you to assign performance monitoring thresholds for the wavelength converter module Laser 1 power levels.

Table D-374   Field Descriptions for the Power Tab

Field	Description
Laser 1 Power	
Value	When the **Update** button is clicked, displays the current power of Laser 1.
Low	Sets the low threshold for the laser power (in mW) and the alarm severity level.
High	Sets the high threshold for the laser power (in mW) and the alarm severity level.

D.5.20.7 Input Power Tab

The Input Power tab allows you to assign performance monitoring thresholds for the power coming into the wavelength converter module.

Table D-375   Field Descriptions for the Input Power Tab

Field	Description
Input Power 1	
Value	When the **Update** button is clicked, displays the current module input power.
Degrade	Sets the degrade threshold for the module input power in dBm and the alarm severity level.
Fail	Sets the failure threshold for the module input power (in dBm) and the alarm severity level.

D.5.20.8 Output Power Tab

The Output Power tab allows you to assign performance monitoring thresholds for the wavelength converter module output power.

Table D-376   Field Descriptions for the Output Power Tab

Field	Description
Output Power 1	
Value	When the **Update** button is clicked, displays the current module output power.
Low	Sets the low threshold for the module Laser 1 output power (in dBm) and the alarm severity level.
High	Sets the high threshold for the module Laser 1 output power (in dBm) and the alarm severity level.

Note   See Table 1-20 on page 1-44 for descriptions of actions that can be performed using the buttons at the bottom of the window.